

ASET
Analyzing Server
Engineering Terminal Software

IM 11B06C01-01E

vigilantplant.®

Introduction

Thank you for purchasing the ASET analyzer server engineering terminal software.

The ASET analyzer server engineering terminal (hereafter called the "Engineering Terminal") is software which is connected by a communication circuit via an analyzer server to a plurality of GC1000 analyzers and a personal computer, for the purpose of monitoring and maintaining the analyzers from the personal computer.

This manual describes the basic method of operating the Engineering Terminal.

For how to operate GC1000 Mark II and PCAS, refer to their corresponding user's manuals.

Also refer to User's Manual of GC8000 (IM 11B08A01-01E) or Password Manual (IM 11B03A03-07E) when the user level is changed.

● Contents of this manual

The part of this manual immediately before Chapter 1 describes the method of installing the Engineering Terminal. Read Chapter 1 and subsequent chapters after you have installed the Engineering Terminal. The contents of each chapter are as follows.

- Chapter 1
Describes an outline of the Engineering Terminal and also the basic operations for using the Engineering Terminal.
- Chapter 2
Describes the method of operating the Ethernet LCD emulator.
- Chapter 3
Describes the method of operating the Overview window.
- Chapter 4
Describes the method of operating each window when GC8000 is connected to ASET.
- Chapter 5
Describes the method of operating each window when the Engineering Terminal is connected to a GC1000 Mark II.
- Chapter 6
Describes the method of operating each window when ASIU is connected to ASET.
- Chapter 7
Describes the method of operating the alarm windows.
- Chapter 8
Describes the method of installing the Engineering Terminal for ARCNET
- Appendix
Gives an outline of the functions of the Engineering Terminal and also the message page. Refer to it when you do not know the meaning of a menu item or message.

● Applicable Readers

The description of the installation method assumes that the reader has a basic knowledge of hardware and software that is necessary for installing the Engineering Terminal. This also applies to Chapter 1 and subsequent chapters, and to Windows.

● Information Priority

The method of operating the Engineering Terminal and also the precautions for handling it are described in the help function (on-line manual) of the engineering terminal and also the README.TXT file which is registered at the time of installation, in addition to this manual.

The priority sequence of the sources of this information is as follows.

- (1) README.TXT file
- (2) Help function (on-line manual)
- (3) Operation guide (this manual)

Safety Precautions

- In order to protect the system controlled by the product and the product itself and ensure safe operation, observe the safety precautions described in this user's manual. We assume no liability for safety if users fail to observe these instructions when operating the product.
- Modification of the product is strictly prohibited.

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- Please hand over the user's manuals to your end users so that they can keep the user's manuals on hand for convenient reference.
- Please read the information thoroughly before using the product.
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Documentation Conventions

■ Symbol Marks

Throughout this user's manual, you will find several different types of symbols are used to identify different sections of text. This section describes these icons.



CAUTION

Identifies important information required to understand operations or functions.



TIP

Identifies additional information.



SEE ALSO

Identifies a source to be referred to.

HELP !

Indicates text describing the action to be taken when a message or indication is displayed during an operation.

■ Keyboard Inscriptions

Keyboard operations are indicated in this manual as shown in the following example.

(Inscription example)

[Shift] + [F1]

(Meaning)

Indicates that the operator must press the [F1] key while pressing the [Shift] key.

■ Menu Inscriptions

Menu operations are indicated in this manual as shown in the following example.

(Inscription example)

Click on [Connect] in the [System] menu.

(Meaning)

Click on the [System] menu, then click on the [Connect] command.

■ Drawing Conventions

Some drawings may be partially emphasized, simplified, or omitted, for the convenience of description.

Some screen images depicted in the user's manual may have different display positions or character types (e.g., the upper / lower case). Also note that some of the images contained in this user's manual are display examples.

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ASET

Analyzing Server

Engineering Terminal Software

IM 11B06C01-01E 9th Edition

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Installing the Engineering Terminal

This chapter describes the installation of the Engineering Terminal (ASET) in the personal computer system being used. Please read the chapter 8, when you use the PCAS for ARC-NET (/ARC).

This installation assumes that your PC system is already in the ready state under the following conditions and also that you have some knowledge of how to use the system.

■ System Configuration

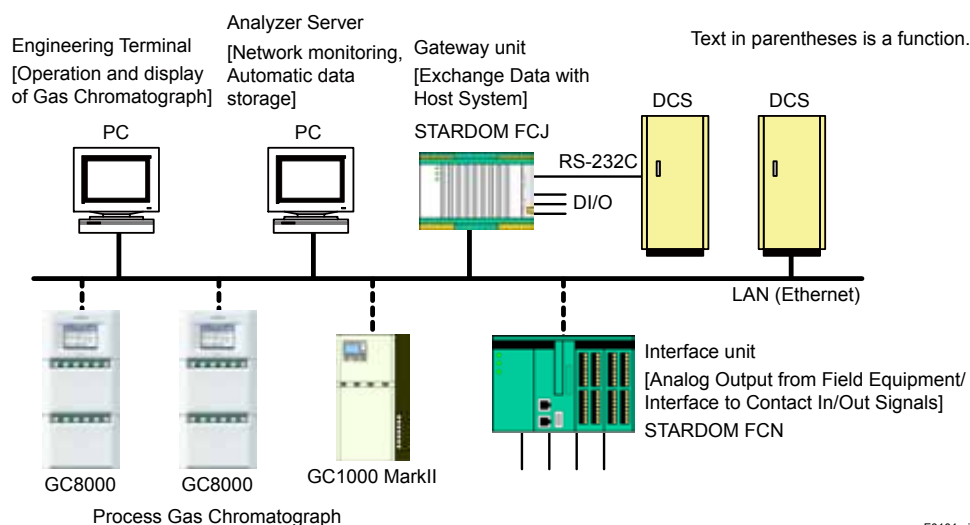
● Software conditions

Model Name	Basic Code	Option Code	Specification
ASET	.....	.....	Analyzing Server Engineering Terminal Software
Function	-A01	.....	Standard
	-S01	.....	Signal analyzer mode
Language	E	.....	English
	J	.....	Japanese
—	-N	.....	Always -N
—	N	.....	Always N
Option		/ARC /UP	ARCNET supported version (Intended for GC1000 Mark II) Version up

● Hardware conditions

Before installing ASET, check that the hardware meets the following conditions:

- OS: Microsoft Windows 7 SP1 (32-bit version/64-bit version, /ARC is only supported 32-bit version), Windows Server 2008 SP2 (32-bit version only)
English, Japanese, or Chinese (In case option /ARC is selected, Chinese is not available)
- CPU: 1 GHz or higher
- Memory: 32-bit - 1 GB or more, 64-bit - 2 GB or more
- Hard disk: At least 20 GB
- Display: SVGA (1024 x 768)
- Ethernet port: 1 (100BaseTX or 100BaseFX)
- Others: CD-ROM drive
- For the hard disk, a data storage capacity should be secured separately according to your PC system format, in addition to the capacity for the program.
- Communications function: Analyzers and analyzer server(s) must be connected via Ethernet communication. The analyzer server and your PC must also be connected via Ethernet communication.



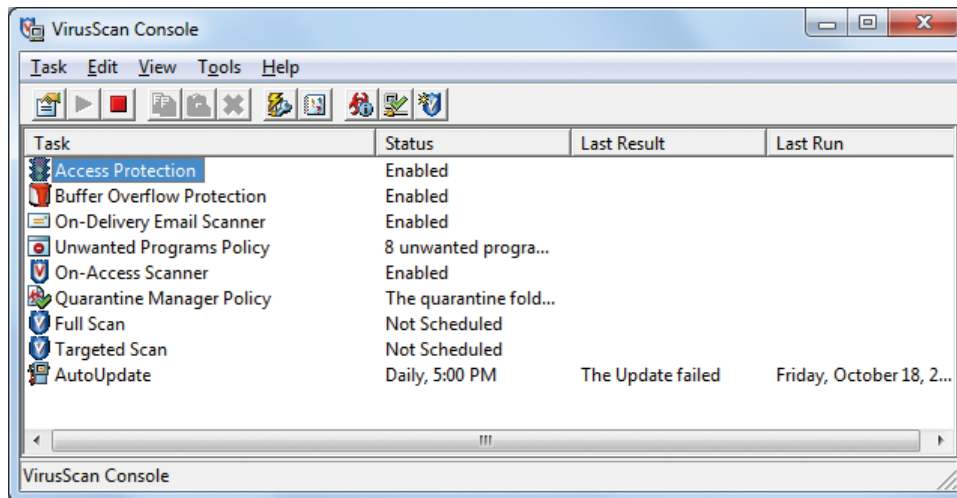
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■ In case MacAfee is used.

In case MacAfee Virus Scan Enterprise is used. Please change the setting of McAfee, during install.

Start VirusScan of McAfee, select “Access Protection” to “Invalid”, by “stop” of “task” menu.

Install is completed, “Access protection” should be “Valid” as change back to original selection.



■ Installing “Microsoft Visual C++ 2008SP1 Redistributable Package”

Install the “Microsoft Visual C++ 2008SP1 Redistributable Package” Before installing ASET.

The installer will be automatically shown up if in case this software package is needed. Please install it by following the steps on the screen.

■ Installation Procedure of ASET

In the case of single analyzer mode (ASET-S01), please install ASET-S.



CAUTION

The user should log on with an administrator account in order to install and use ASET. Proper operation is not guaranteed when the user logs on with a limited user account.

● Installing ASET on Computers Running Windows 7

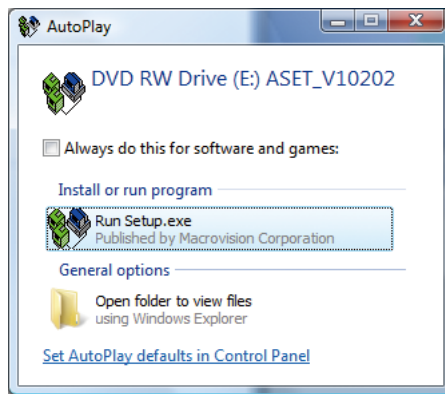
- (1) Prepare a personal computer which fills the specification and turn on the power.
Start Windows.

- (2) Insert the installation disk into the CD-ROM drive.

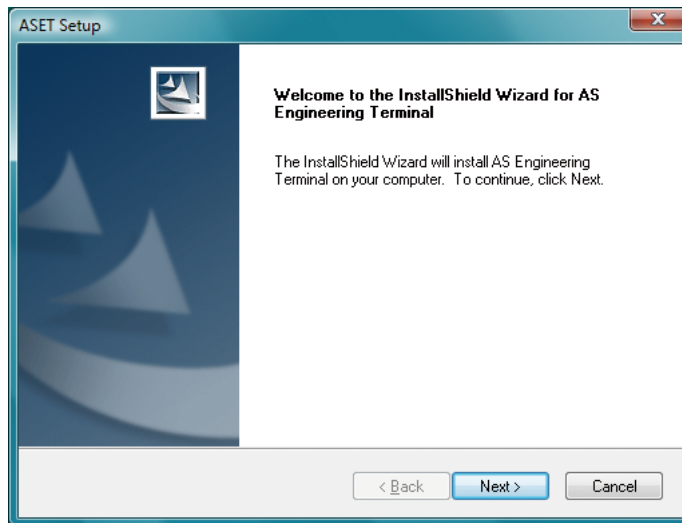
- (3) The install program is started automatically.

The following dialog box appears. Click [Run Setup.exe].

If it is not started automatically, run “setup.exe” file by double-clicking. The file is located under Disk1 directory.



- (4) The “Welcome to the InstallShield Wizard for AS Engineering Terminal” dialog appears. Click [Next].



- (5) Hereafter, install according to the displayed instruction.



CAUTION

Might be necessary to restart the personal computer at the end of installation.

■ Installation Procedure of ASET-S



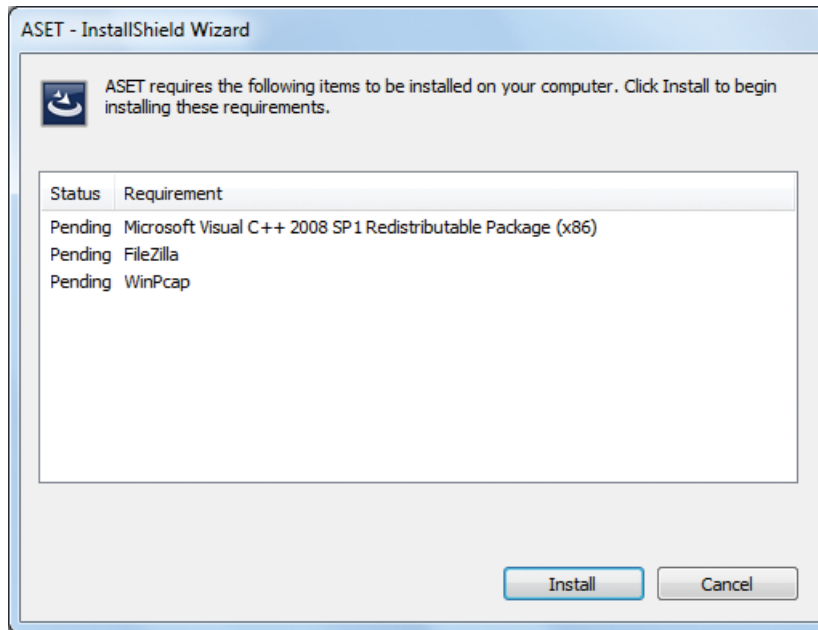
CAUTION

The user should log on with an administrator account in order to install and use ASET-S. Proper operation is not guaranteed when the user logs on with a limited user account.

● Installing ASET-S on Computers Running Windows 7

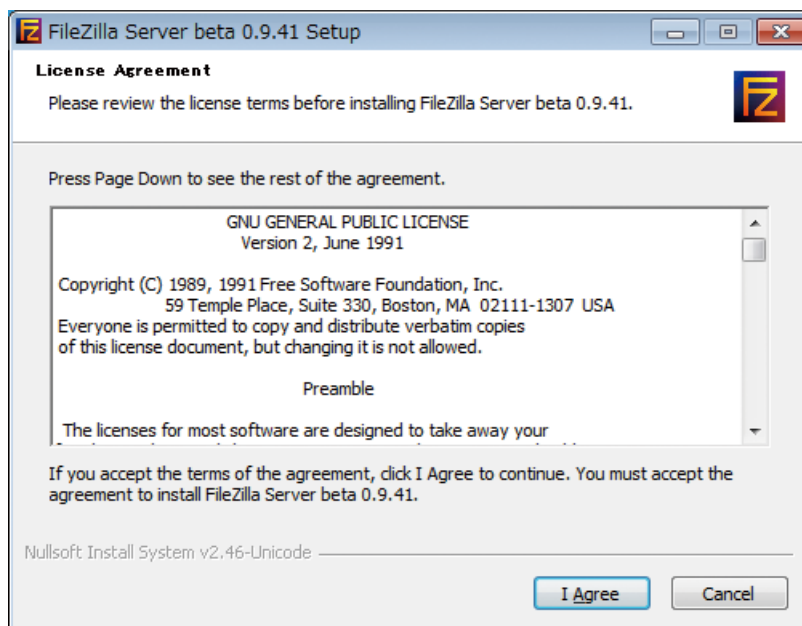
- (1) Prepare a personal computer which fills the specification and turn on the power. Start Windows.
- (2) Insert the installation disk into the CD-ROM drive.
- (3) The install program is started automatically. The following dialog box appears.

The installed requirements are not displayed anymore. Click [Install].



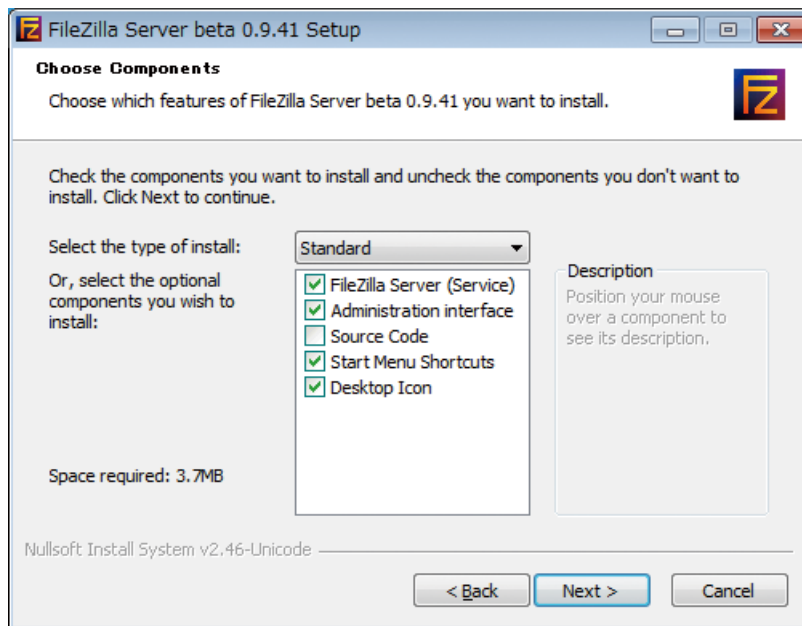
- (4) The FileZilla Server beta 0.9.41 installation starts automatically after the Microsoft Visual C++2008 SP1 Redistributable Package(x86) installation ends.

When the License Agreement dialog box of the FileZilla Server beta 0.9.41 setup appears, read the terms and click the "I Agree" button if you agree with the terms.



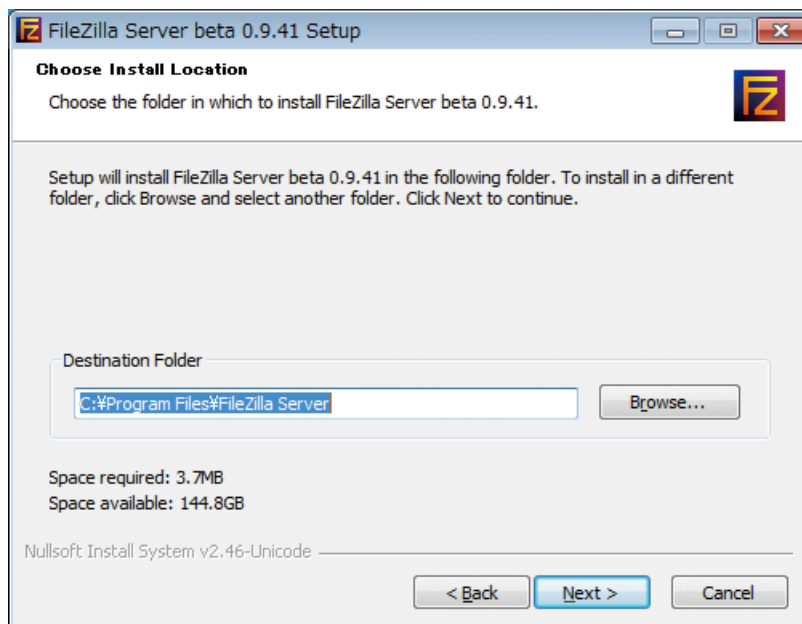
- (5) If you agreed with the terms in Step (4), the Choose Components dialog box appears. By default, Standard is selected for the combo box and checkmarks are added to the FileZilla Server (Service), Administration interface, Start Menu Shortcuts and Desktop Icon checkboxes. PCAS will run normally if you leave the settings unchanged.

Procedures described later in this user's manual assume that these settings were left unchanged. Therefore, leave them unchanged and then click the Next button.



- (6) The Choose Install Location dialog box appears. Directly enter the path in the input box of Destination Folder or click the Browse button and specify the installation location in the Choose Folder dialog box that appears.

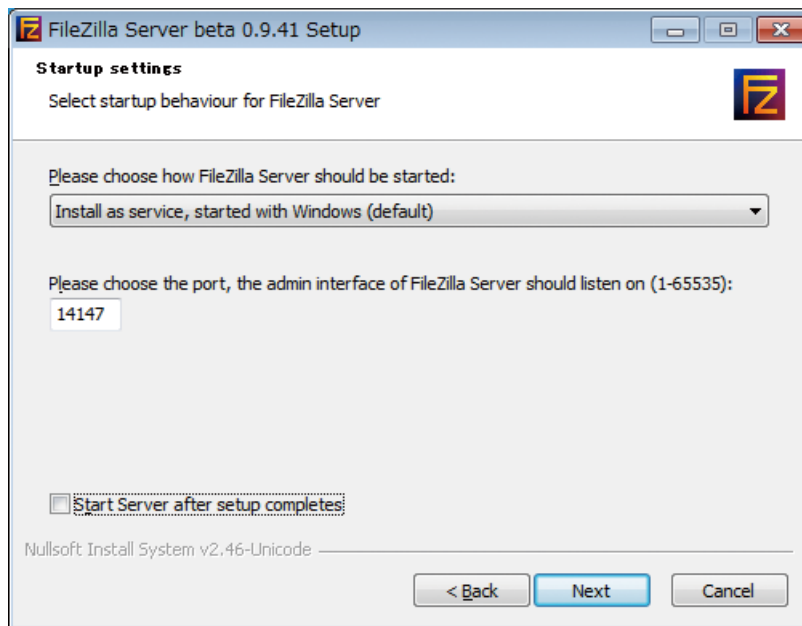
After you specify an installation location in Destination Folder, click the Next button.



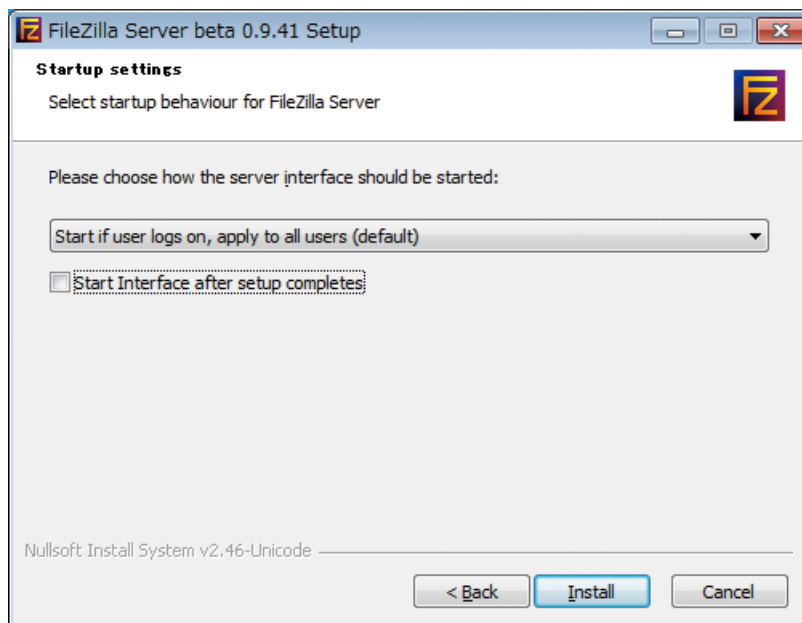
- (7) The Startup settings dialog box appears next. This dialog box is for configuring the FileZilla Server startup settings.

The default settings for the combo boxes and input box are “Install as service, started with Windows (default),” and “14147.” These settings should be left set to their defaults and procedures described later in this user’s manual assume that these settings were left unchanged. Therefore, leave them unchanged.

Furthermore, checkbox “Start Server after setup completes” have a checkmark added by default. This checkbox set whether to start FileZilla server after the installation is complete. Remove these checkmarks and then click the Install button because WinPcap will be installed after the FileZilla installation ends.



- (8) Next, “Startup setting” dialog is shown. Combo box specify “Start user logs on, apply to all users (default)” as default setting. Please leave it. Procedures described later in this manual assume that the setting were left unchanged. Check column is selected as default. This means the selection of start after installation. Please release this check so that ASET install is continued after FileZilla installation is over.



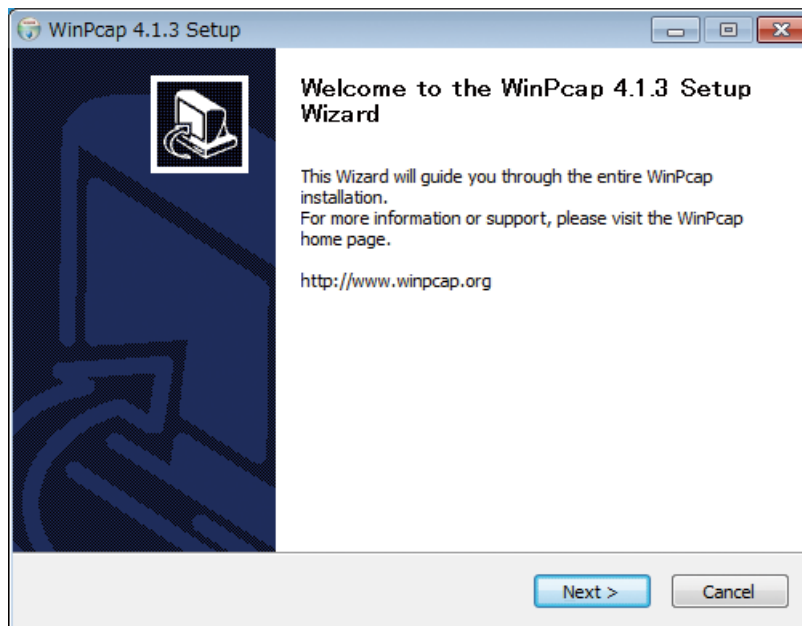
- (9) The installation screen appears and then the Installation Complete dialog box appears automatically after the installation completes. Click the Close button.

The WinPcap installation starts automatically after the FileZilla Server beta 0.9.41 installation ends. Hereafter, install according to the displayed instruction.

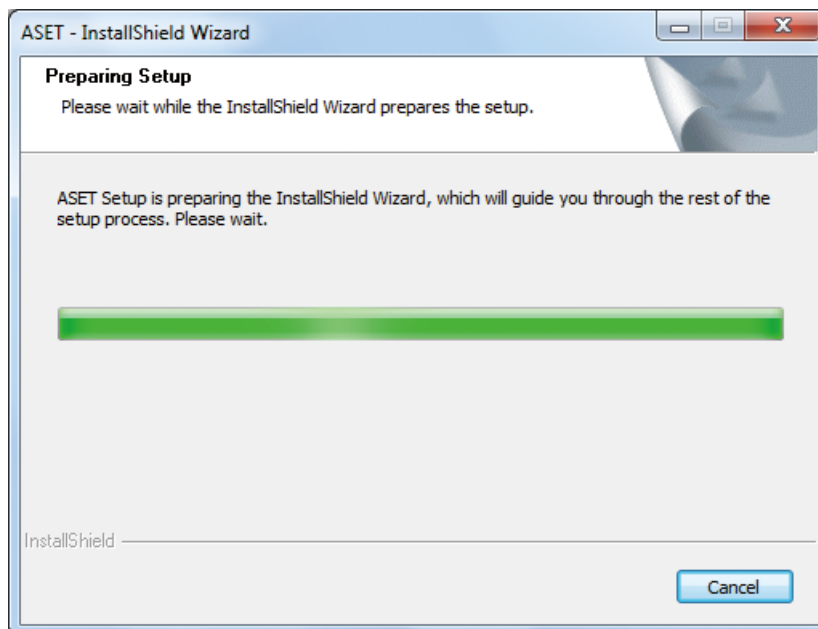


CAUTION

Might be necessary to restart the personal computer at the end of installation.



- (10) The ASET installation starts automatically after the WinPcap installation ends. Hereafter, install according to the displayed instruction.



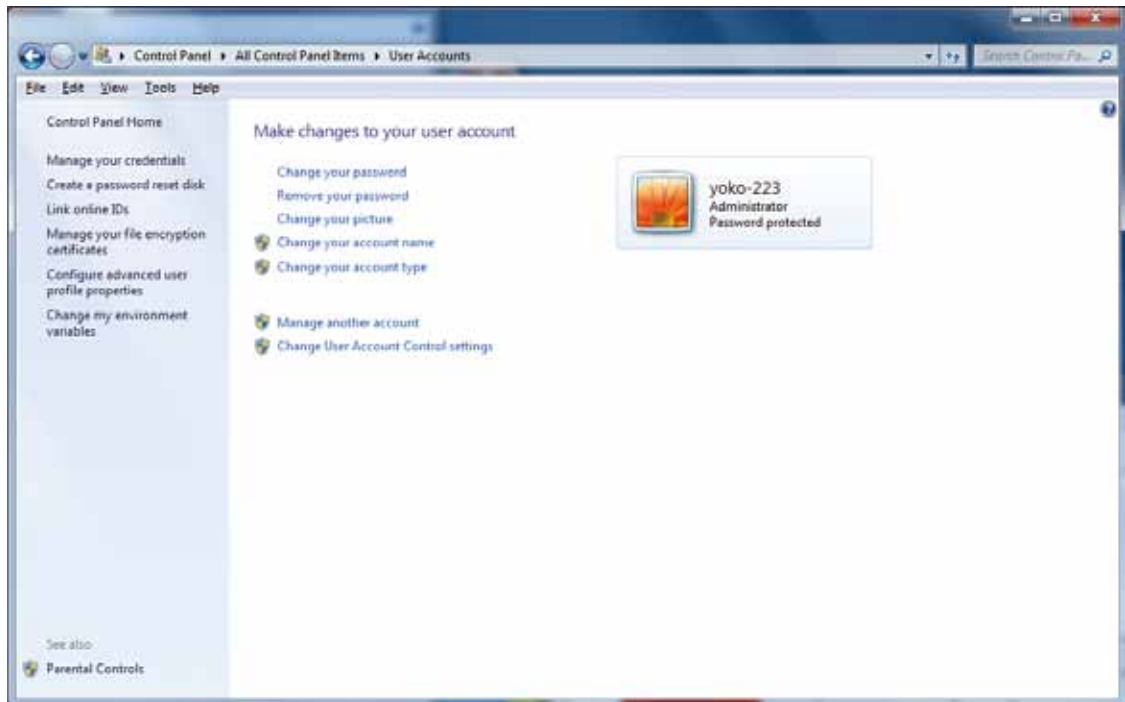
■ Changing User Account Control settings

UAC helps prevent unauthorized programs from being installed on the system silently by viruses or malicious software. This feature is normally preferable, but in some cases, it may interfere with system operation and settings, e.g., UAC may block installation of some applications.

UAC can be disabled at the user's discretion. Yokogawa is not responsible for any problems that may result from disabling UAC.

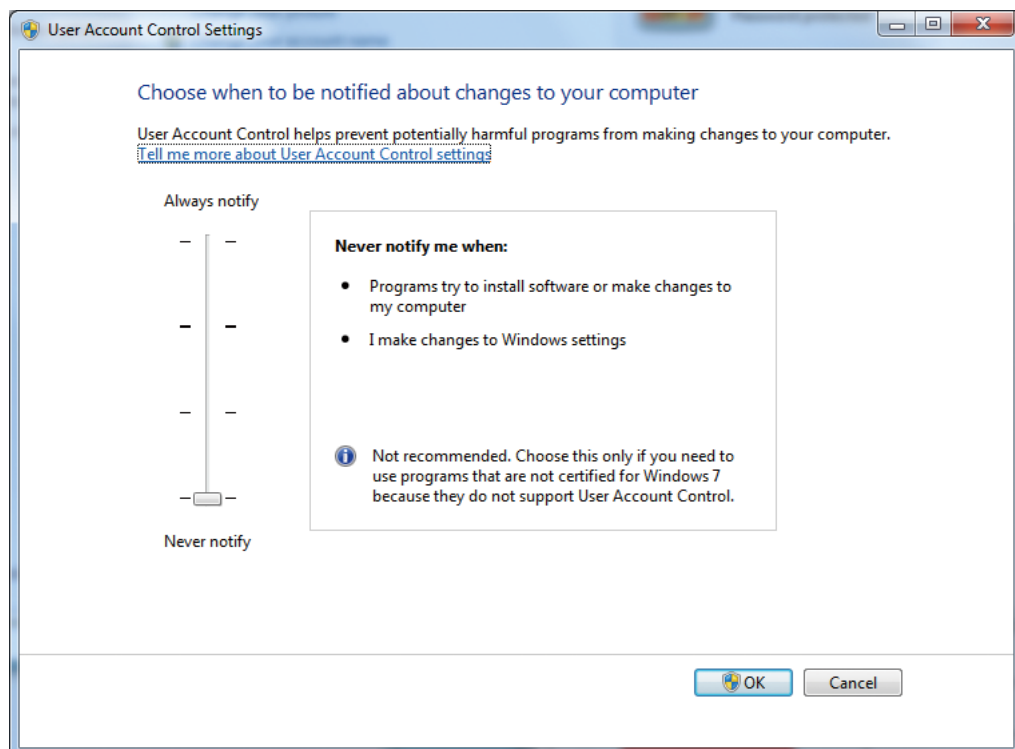
The UAC setting is enabled by default. To disable the setting, you must log on using an administrator account. All the following steps should be done as an administrator account.

- (1) Open the Control Panel and then User Accounts.



Click [Change User Account Control settings]. The [Change User Account Control settings] dialog appears.

- (2) In the [Choose when to be notified about changes to your computer], side to "Never notify", and then click [OK].



Changing UAC setting is now complete.

■ Installing ASET on Computers Running OSs Other Than Windows 7

- (1) Prepare a personal computer which fills the specification and turn on the power.
Start Windows.
- (2) Insert the installation disk into the CD-ROM drive.
- (3) The install program is started automatically.
The steps after this are the same as those for installing on computers running Windows 7 OS.



CAUTION

Might be necessary to restart the personal computer at the end of installation.

■ PC Configuration for Power Management

It is recommended that the following items be set and confirmed after installation of ASET.



CAUTION

ASET may not function properly while the sleep, standby and hibernation settings are enabled. The settings above can be disabled in Windows. The setting procedure is as follows.

● for Windows 7

Log on as a user with administrator privileges, click the Start menu, select Control Panel, Hardware and Sound, double-click Power Options to display the Power Options Properties dialog box, and then make sure the following items are set as described below. Note that some of the items described below may not be displayed depending on the configuration of the PC. If an item is not displayed, the function is disabled.

- **Choose what the power button does.**
When I press the power button: Do nothing
When I press the sleep button: Do nothing
When I close the lid: Do nothing
- **Choose what to turn off the display**
Turn off the display: Never

● for Windows Server 2008

Log on as a user with administrator privileges, click the Start menu, select Control Panel, double-click Power Options to display the Power Options Properties dialog box, and then make sure the following items are set as described below. Note that some of the items described below may not be displayed depending on the configuration of the PC. If an item is not displayed, the function is disabled.

- **System Settings window**
When I press the power button: Do nothing
When I press the sleep button: Do nothing
When I close the lid: Do nothing

- **Edit Plan Settings window**
Put the computer to sleep: Never

■ Communication which is passing though the fire wall.

TCP port 34341 and 34342 in ASET and 34349 in EtherLCD are assigned. In this case special permit is required.

Please contact with authorized person for users Net work system.

■ How to capture the screen.

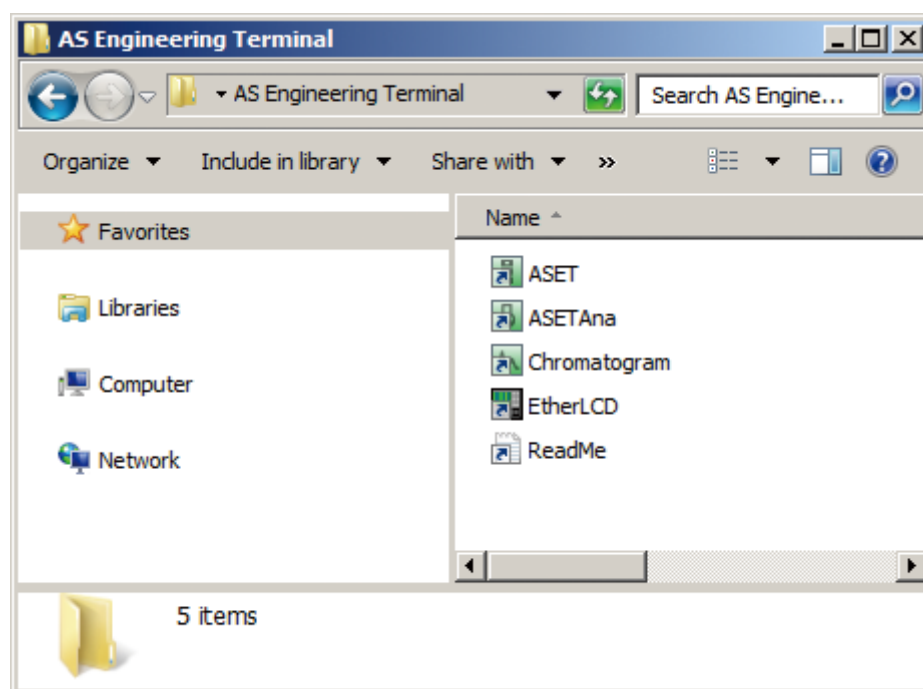
- (1) Press the Print Screen key on your keyboard to copy the bitmap on the clipboard. It may be labeled [PrtScn].
When you want to capture an active window, press and hold down the “Alt” key, and press the “Print Screen” key on your keyboard to copy the bitmap on the clipboard.
- (2) Open an image editing programme, such as Microsoft Paint.
Start the Paint accessory (Start -> Program -> Accessories -> Paint).
- (3) Select [PASTE] from the [Edit] menu.

■ Changes in the Windows Environment

When you install ASET, the Windows environment will change as follows:

● “AS Engineering Terminal” group

When you install ASET, the “AS Engineering Terminal” group is newly registered. Five short-cut icons, namely “ASET”, “ASETAna”, “Chromatogram”, “EtherLCD” and “ReadMe” are registered in the “AS Engineering Terminal” group.



- **ASETCFG.INI file and ASET.INI file**

When you install ASET, the initialization files “ASETCFG.INI” and “ASET.INI” are created in the directory located in the Windows execution files. However, in cases where ASETCFG.INI and ASET.INI already exist, such as when you are re-installing ASET, if you reply “No” to the question “Do you wish to copy the initialization files?” the current files will be saved.



About initialization files

- Do not directly edit an initialization file using a text editor, etc. unless Yokogawa specifically instructs you to do so. Otherwise, normal operation cannot be assured.
- If an initialization file has been directly edited according to Yokogawa's instructions, restart the application. The modified information will be only enables after restarting.

1. Overview of the Engineering Terminal

This chapter gives an overview of the Engineering Terminal, as well as the basic facts that you need to know before operating the Engineering Terminal.

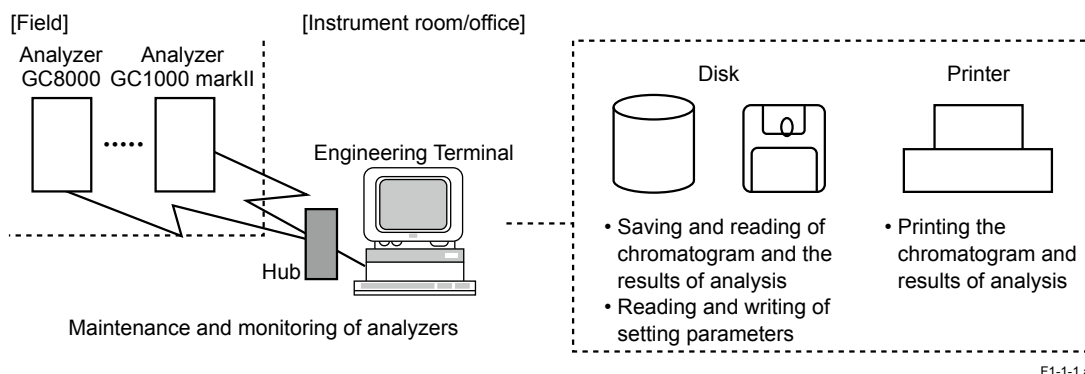
1.1 Engineering Terminal

Before operating the Engineering Terminal, take a look at what kind of software the Engineering Terminal contains.

■ Engineering Terminal

The ASET Engineering Terminal is software that is intended for collectively maintaining and monitoring analyzers from a personal computer. It links an analyzer server connected to multiple units of GC1000 Mark II and ASIUs (hereafter called “analyzers”) to a personal computer via a communication link (Ethernet). Moreover, ASET can also be run on a PC serving as the analyzer server.

An overview of the Engineering Terminal follows.



■ Engineering Terminal Features

The Engineering Terminal has the following features:

- **Collective control of up to 64 analyzers**

You can control up to 64 analyzers collectively from a single ASET via an analyzer server.

Moreover, up to 240 analyzers can be connected to the analyzer bus. By using multiple ASETs to control the analyzers in blocks, you can control all 240 analyzers.

- **Continuous monitoring for extended periods**

The analyzer server continuously saves data (chromatograms, analyzed values, and setting parameters) from the analyzers connected via the network. The ASET can call up continuous data stored in the analyzer server and display it, enabling you to perform continuous monitoring over extended periods.

- **Data transfer using Ethernet communication**

Using Ethernet, the large volumes of data stored in the analyzer server can be uploaded and downloaded, for each analyzer at a time, at the rate of 100 Mbps. ASET uses the standard file transfer protocol FTP, thus significantly improving the reliability of data transfer.

- **Remote operation of the LCD window**

The analyzer's LCD window is displayed as is on the PC monitor, enabling you to operate the LCD window for each analyzer from a remote location from the site.

- **Analyzer Operation window allowing the operation status to be seen at a glance**

The analyzer's current operation mode, the operation status of the valves, detectors, etc. and a chromatogram are displayed in a single window (Analyzer Operation window); operation status can be checked at a glance. Moreover, you can change the operation mode, open and close valves, display a detailed chromatogram, and so on by simply clicking on the window.

- **Displaying a detailed chromatogram and saving data**

An overview of a chromatogram can be displayed in the Analyzer Operation window. In addition, you can display a detailed chromatogram in the Chromatogram Display window. Using this window, you can partially enlarge a chromatogram, change the scale, or save chromatogram data.

- **Storing analysis data and creating graphs**

The results of analysis using an analyzer are stored in the analyzer server. The analyzer server can store the peak names for up to 255 events and the analysis time for up to 250 events for each analyzer. Analysis data stored in the analyzer server can be read out and displayed on a graph at any time, and data can also be saved to a file and then opened in general-purpose software such as Excel for more sophisticated data processing.

■ Single Analyzer Mode (ASET-S01)

Compared with the standard engineering terminal (ASET-A01), the following limitations exist.

- Only a single analyzer can be controlled at any given time.
- PC Analyzer Server Software (PCAS) is not required.
Data is stored in the PC in which ASET-S01 is installed.
- In a system where PCAS is used to control redundant analyzers, ASET-S01 cannot be used. Use ASET-A01 (standard).

1.2 Engineering Terminal Group

Take a look at the types of software comprising the Engineering Terminal Group and the windows making up the Engineering Terminal.

■ Software Configuration

The Engineering Terminal consists of the following three types of software:

Software Type	Function
Engineering Terminal (ASET)	This is the main core of the Engineering Terminal. It develops various windows based on the Overview window that displays the operation status of multiple analyzers, as well as the analysis results.
Analysis Results window (ASETAna)	This window stores analysis results. It can be started independently if you wish to process analysis results saved in a file.
Ethernet LCD Emulator (EtherLCD)	This software runs independently of the Engineering Terminal. It can emulate an analyzer LCD panel (i.e. operate in the same way as on the analyzer), allowing you to operate the analyzer panel from the PC.

■ Engineering Terminal Window Configuration

The Engineering Terminal consists of the following windows:

Window Type	Function
Overview window	This window is provided to monitor the status of each analyzer connected to PCAS. It appears when ASET starts.
Analyzer Overview window	The Analyzer Overview window displays the measurement status of each GC module (hereafter referred to as GCM) in GC8000. Select the GCM you want to view the details in this window. From this window, open your desired subwindow (Analyzer Configuration, Analyzer Operation, Chromatogram, Analysis Results, or Alarm windows).
Analyzer Operation window	The Analyzer Operation window is provided to operate or monitor the operation status of an analyzer. Switch the window for each GCM.
Chromatogram window	The Chromatogram window is provided to monitor the current chromatogram or to display chromatograms stored in an analyzer server (hereafter referred to as PCAS). It is also used to reanalyze chromatograms.
Analysis Results windows	Displays the latest analysis results, concentration analysis history, retention time history or calibration coefficient history. Switch the window for each GCM or system (hereafter referred to as SYS).
Alarm windows	Displays alarm status and history of an analyzer. Switch the window for all analyzers or each GCM.
Analyzer Configuration window	The Analyzer Configuration window is provided to display the definitions of GCMs or SYSs in GC8000 or equipment configuration, such as oven, detectors, and valves.

■ Precautions for Using the LCD Emulator and Engineering Terminal

Observe the following precautions when using the LCD Emulator or Engineering Terminal.

- **Analyzer data is controlled by the analyzer server.**

It is essential that the Analyzer Server (PCAS) software is running normally. For PCAS, refer to the PCAS User's Manual (IM 11B06B01-01E).

- **Use the LCD Emulator or Engineering Terminal with an analyzer unit in remote mode.**

If the analyzer unit is not in remote mode, the command from LCD Emulator is not accepted. You can use the Engineering Terminal's display function even when the analyzer is in Local mode, but if you attempt to perform operation, a message appears indicating the operation was not accepted.

- **The LCD Emulator and Engineering Terminal can be run at the same time.**

Settings can be changed using the LCD Emulator while observing the operation status of analyzers on the Engineering Terminal.

However, there are some items that disable setting changes depending on the operation status, or that cause changes to be reflected in measurement at different timing.

2. Ethernet LCD Emulator Window

The Ethernet LCD Emulator is software that reproduces an analyzer LCD panel in Windows.

It directly simulates the window and buttons of an LCD panel in the field in a Windows' window, providing both display and operations virtually identical to those of the LCD panel in the field. With the LCD Emulator, you can connect to all analyzers that are connected via the network.

This chapter gives an overview of the LCD Emulator window.

For more information, refer to User's Manual of GC8000 (IM 11B08A01-01E) or GC1000 Mark II LCD Panel Operation Manual (IM 11B03A03-05E).

● Before Using the Ethernet LCD Emulator

Before starting the LCD Emulator, always check the following:

- Engineering Terminal is installed in the personal computer that is being used
- Analyzers and your PC are connected via the analyzer server
- Analyzer units are in Remote mode

2.1 Starting LCD Emulator, Changing Analyzer, and Exiting LCD Emulator

This section describes operations for starting an LCD Emulator, changing an analyzer, and exiting the LCD Emulator.

■ Starting

The Ethernet LCD Emulator can be started while ASET or GCET is running. However, it cannot be started while ASMT, GCMT, ASLCD, or LCD is running.

A single analyzer can communicate with only one PC at a time using Ethernet LCD Emulator. If a specified analyzer is communicating with another PC, a message appears informing you that communication cannot be connected.

Note that the Ethernet LCD Emulator cannot be connected to ASIU.

You can start up to four Ethernet LCD Emulators simultaneously with a single PC. If you attempt to start a 5th Ethernet LCD Emulator, a message box appears informing you that more Ethernet LCD Emulators cannot be started.

● Operation procedure

- (1) An Ethernet LCD Emulator can be started by clicking Windows' Start button, selecting All Programs, and clicking on the EtherLCD item in the AS Engineering Terminal group. Or if an

EtherLCD short-cut icon 

is provided in the window, you can double click it instead.

- (2) If the number of analyzers registered is zero or two or more, the Select Analyzer dialog box appears. Select the analyzer you wish to connect.

If the number of registered analyzers is one, the Ethernet LCD Emulator starts communication with that analyzer directly, without displaying the Select Analyzer dialog box.



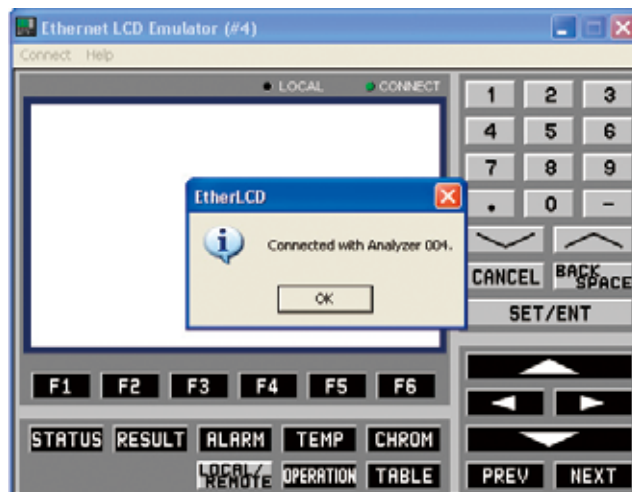
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- (3) Choose the analyzer ID of the analyzer you wish to connect to from the list displayed.
 (4) Click the Run button.

The cursor changes to a sandglass icon and the Ethernet LCD Emulator waits for the result of the communication connection.

When the communication connection becomes established, the Ethernet LCD Emulator's CONNECT indicator is displayed in green, informing you that it has been connected to the analyzer concerned. After a while, the Initialize window (status window) of the analyzer appears. The selected analyzer ID will be indicated at the right of the caption in the form of "#XXX."

If communication connection fails to be established, a message box to that effect appears. The CONNECT indicator on the window remains blacked out.

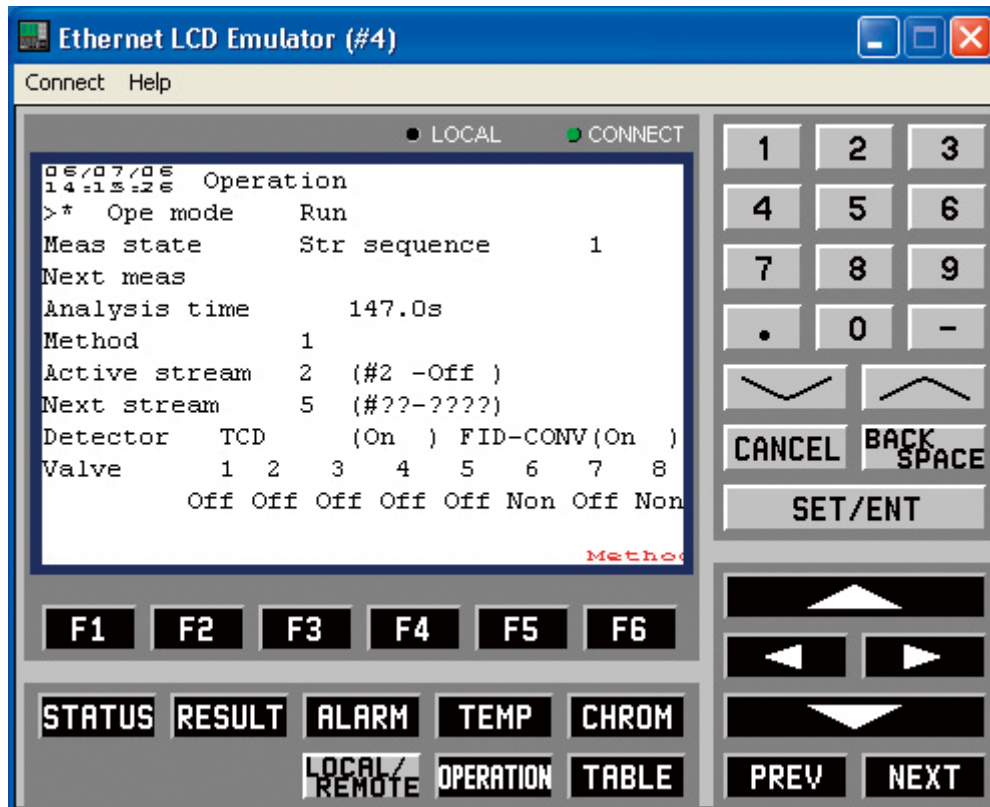


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HELP !

- If the message "Connection failed" is displayed, it is possibly due to one of the following seven causes:
 - (1) Wiring to the analyzer is incorrect.
Countermeasure: Check the wiring between the analyzer and the analyzer server, and between the analyzer server and the PC.
 - (2) The Ethernet card is not functioning properly.
Countermeasure: Confirm that the Ethernet card operates normally.
 - (3) No TCP/IP has been installed in the OS.
Countermeasure: Install TCP/IP to the OS.

- (4) The analyzer server IP address is illegal.
Countermeasure: Click on the Select Server command in the Connect menu to open the Select Server dialog box and re-enter the correct IP address.
 - (5) You have chosen the analyzer ID of an analyzer not connected to the analyzer server.
Countermeasure: Choose the correct analyzer ID.
 - (6) The selected analyzer is in Local mode.
Countermeasure: Change the mode of the analyzer unit's LCD panel to Remote and try to make the communication connection again.
 - (7) Communication connection with the analyzer cannot be achieved temporarily due to causes such as noise.
Countermeasure: Execute the Connect command from the Connect menu again.
- (5) Click the OK button.
The LCD Emulator window appears.



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HELP !

If the analyzer unit's LCD panel is being operated while the LCD Emulator is being used, a message stating "Exit command has been received" appears and communication with the analyzer will be disconnected.

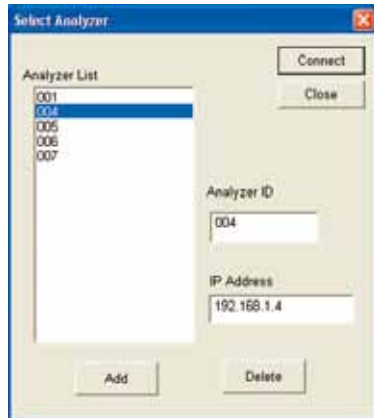
To reactivate the LCD Emulator window in this case, wait for panel operation of the analyzer unit to be finished, then re-execute the communication connection.

■ Changing Analyzers

● Operation procedure

- (1) Click on the Select Analyzer command in the Connect menu.

The dialog box for selecting the analyzer ID of a new analyzer to be connected appears.



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- (2) Choose the analyzer ID of the analyzer you wish to connect to from the list.
- (3) Click the Run button.

This connects communication with the selected analyzer.

■ Editing the List of Analyzer IDs

The method of editing information in the List of Analyzer IDs in the Analyzer select dialog box is as follows:

● Registration

- (1) Enter the analyzer ID, tag name (if necessary), and IP address into the respective fields.
The available analyzer IDs are from 1 to 240.
- (2) Click the Register button. The entered information is added to the List of Analyzer IDs.

● Editing

- (1) Select the analyzer ID to be edited from the List of Analyzer IDs.
- (2) Change the information in the Analyzer select dialog box.
- (3) Click the Register button.

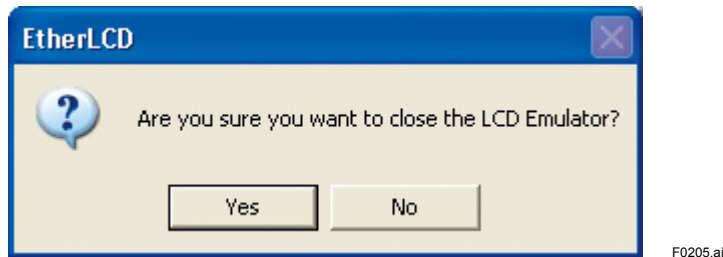
● Deletion

- (1) Select the analyzer ID of the analyzers to be deleted from the analyzer list.
- (2) Click the Delete button. This causes the selected analyzer ID to be deleted from the List of Analyzer IDs.

■ Exiting the LCD Emulator

● Operation procedure

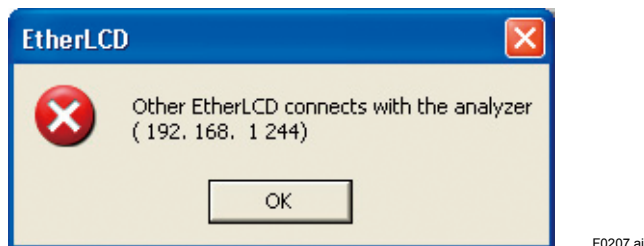
- (1) Click on the Exit command in the Connect menu.
The dialog box asking if you wish to exit the LCD Emulator appears.



- (2) Click the Yes button.
This disconnects communication with the analyzer, exiting the LCD Emulator.

■ Limitation on the Number of Users to be Connected Simultaneously

The analyzer cannot communicate with multiple LCD Emulators at the same time. If a user attempts to make a communication connection with a particular analyzer using an LCD Emulator while another user is already communicating with that analyzer using an LCD Emulator, the second connection cannot be established. In this case, a message box appears indicating the IP address of the currently connected PC.

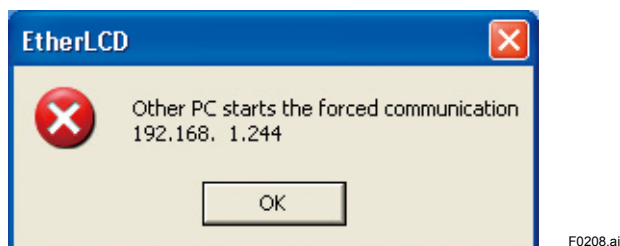


■ Forced Connection

Forced connection is a connection means to establish a communication connection even if the analyzer concerned is communicating by Ethernet with the Ethernet LCD Emulator on another PC.

For example, assume that PC1 with the IP address XXX.XXX.XXX.100 has started an Ethernet LCD Emulator and has been communicating with an analyzer. In this case, if PC2 with the IP address XXX.XXX.XXX.101 starts an Ethernet LCD Emulator to make a forced connection with that analyzer, connection with PC1 is terminated and a dialog box stating "Communication is disconnected due to forced connection from XXX.XXX.XXX.101" appears on PC1. Then communication between PC2 and the analyzer concerned will be started. (Last priority)

Moreover, if another PC has started an LCD Emulator to make a serial connection and is conducting serial communication with an analyzer unit's LCD, forced connection is still possible. (In this case, proceeding with serial communication will be interrupted.)



● Operation procedure

- (1) Click on the Forced Connect command in the Connect menu.

The dialog box for typing a password appears.

About the password refer to User's Manual of GC8000 (IM 11B08A01-01E) or Password Manual (IM 11B03A03-07E).

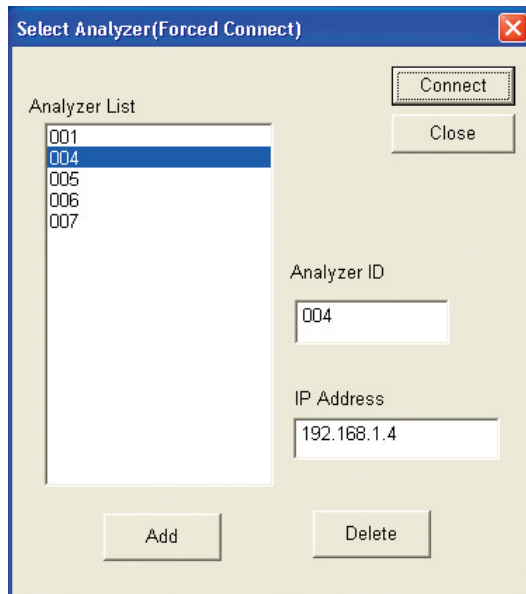
- (2) Enter the password and click the Run button.

When a user level C password is entered, in case the number of analyzers registered is 0 or 2 or more, the dialog box of Analyzer selection (Forced connect) appears.

Here, select the analyzer to be forced-connected.

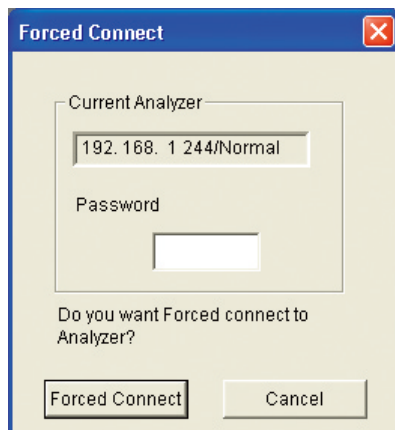
When the number of analyzers registered is 0, the analyzer is added.

When the number of analyzers registered is 1, the confirmation message (to be forced-connected) comes up.



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- (3) When the analyzer requested the force connection is under the connection with the other Ethernet LCD emulator, the dialog box of the force connection appears. Confirming the IP address which is now connecting, enter a user level C password again, then click Force connect button.



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CAUTION

If another user performs forced connection during this establishment of forced connection, the original attempt at forced connection communication will be disconnected.

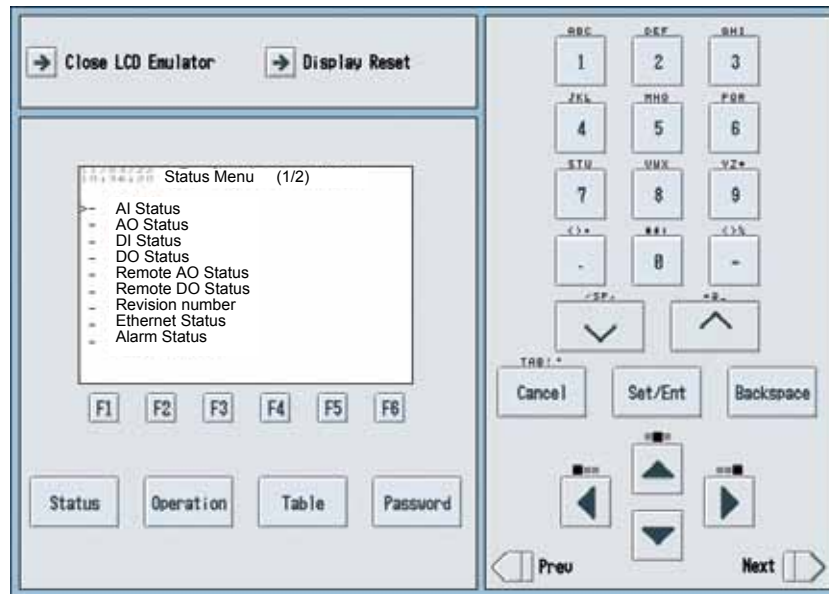
2.2 Basic Operation

The LCD Emulator window is identical to the LCD panel for both display and operations. Buttons on the window can be operated using a mouse, and keyboard-based one-touch operation is also possible.

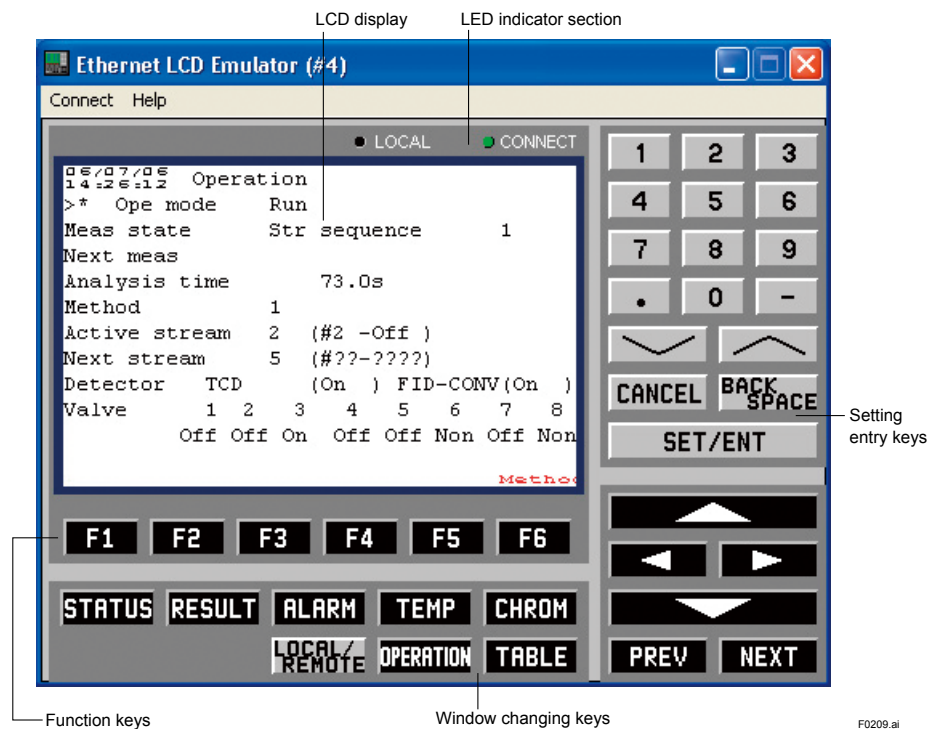
■ Window Configuration

The following shows an LCD Emulator window configuration.

● GC8000



● GC1000 MarkII



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■ Window Operation

The Ethernet LCD Emulator can realize all the display and operation features of an analyzer's LCD panel with the exception of the following:

ALARM indicators

DISPLAY RESET key

● Mouse operation

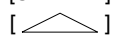
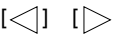

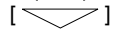
Move the mouse cursor over the key you wish to operate and then click the mouse's left button. This activates the keys to be operated in the same way as those on the LCD panel.

● Keyboard operation

Keys on each panel correspond to the keys on the keyboard as follows:

Pressing any of these keys facilitates key operation in the same way as those on the LCD panel.

Panel display and keys on the keyboard

	Window Display	Keys on Keyboard
Function keys	[F1] to [F6]	[F1] to [F6]
Window changing keys	GC8000 [Status] [Password] [Operation] [TEMP]	[SHIFT] + [F1] [SHIFT] + [F6] [SHIFT] + [F7] [SHIFT] + [F8]
	GC1000 MarkII [STATUS] [RESULT] [ALARM] [TEMP] [CHROM] [LOCAL/ REMOTE] [OPERATION] [TABLE]	[SHIFT] + [F1] [SHIFT] + [F2] [SHIFT] + [F3] [SHIFT] + [F4] [SHIFT] + [F5] [SHIFT] + [F6] [SHIFT] + [F7] [SHIFT] + [F8]
Setting entry keys	Alphanumeric keys [∨] [∧] [CANCEL] [BACK] [SPACE] [SET/ENT] [] [] [] [] [PREV] [NEXT]	Alphanumeric keys [Page Down] [Page Up] [ESC] [BACK] [SPACE] [ENTER] Cursor movement keys [CTRL] + [P] [CTRL] + [N]

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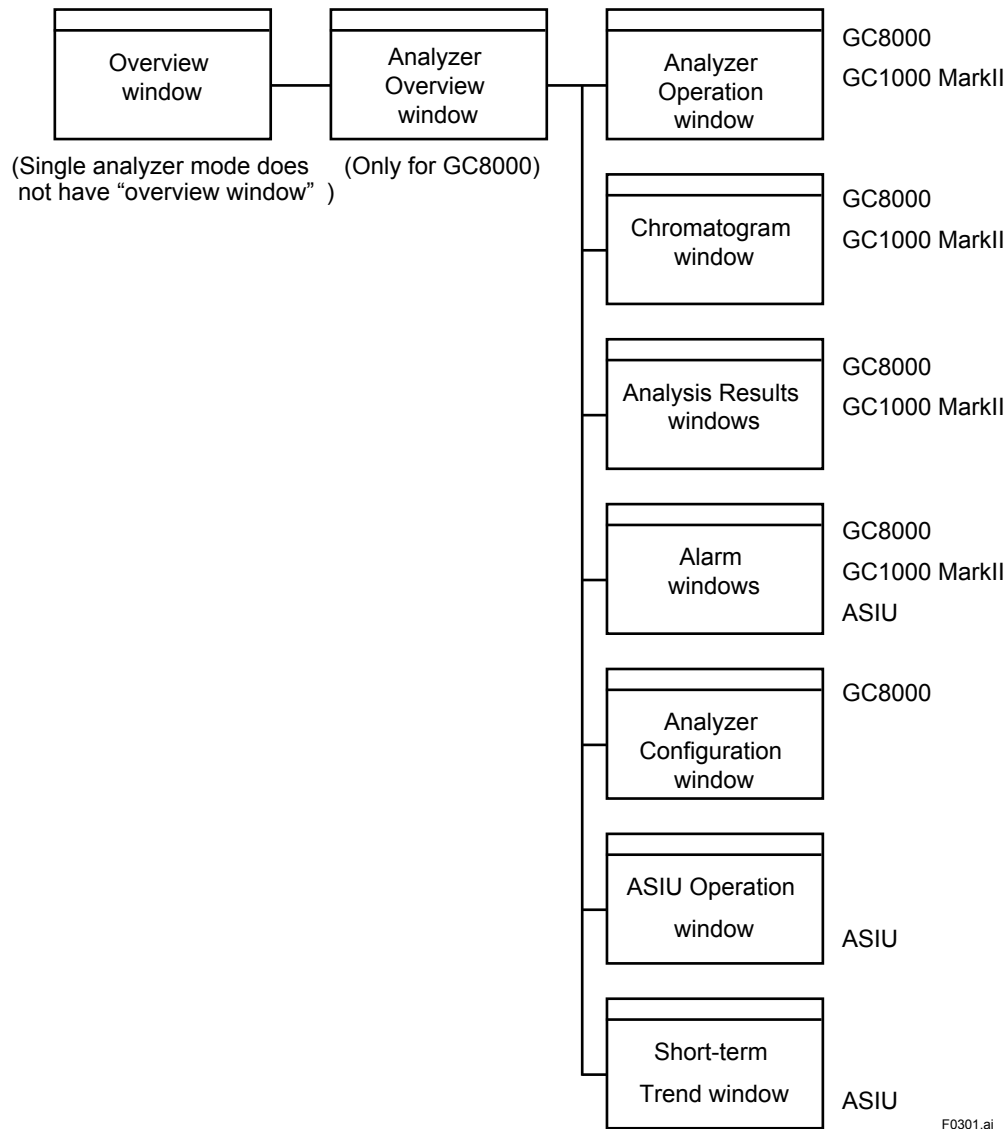
3. Overview Window

The Overview window facilitates status display and the operation of two types of analyzers: GC1000 Mark II and ASIU. There are slight differences in window display and the available commands according to the analyzer type.

This chapter describes those areas both analyzer types have in common, such as how to start/exit the Overview window, setting window displays, and reading and writing parameters.

For individual information pertaining to each analyzer type, see Chapter 4 for GC8000, Chapter 5 for GC1000 Mark II and Chapter 6 for ASIU.

The following shows the relationship between the windows:



● Before Using ASET

Before starting the Engineering Terminal, always check the following items:

- Engineering Terminal is installed in the personal computer that is being used
- Analyzers and your personal computer must be connected via an analyzer server

3.1 Starting and Exiting the Engineering Terminal

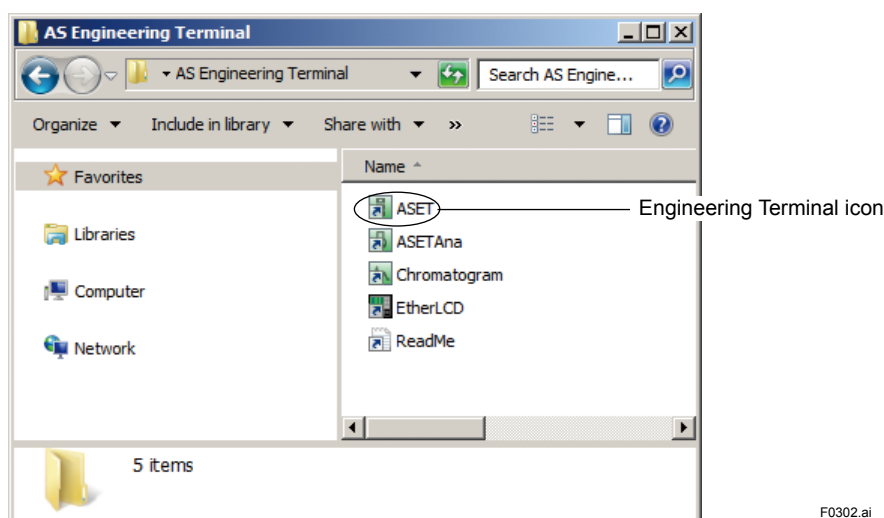
This section describes how to start and exit the Engineering Terminal.

■ Starting

The Engineering Terminal can operate just one window.

● Operation procedure

- (1) Turn ON the personal computer's power supply, start Windows, and display the Engineering Terminal Group window on the Desktop.



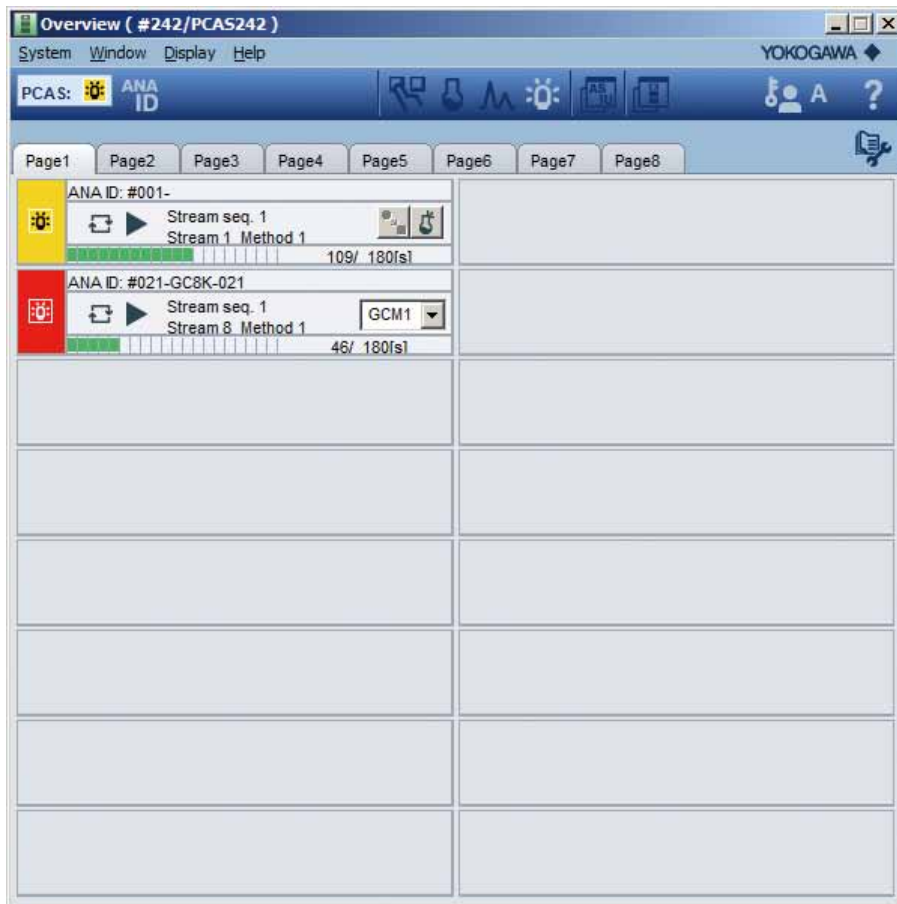
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- (2) Double click on the Engineering Terminal icon.

This establishes communication connection with the analyzer server, causing the Overview window to appear.

HELP !

If the Engineering Terminal fails to establish communication connection with the analyzer server, the message "Connection failed" appears. For possible causes of this and steps to be taken, see HELP in section 2.1, "Starting LCD Emulator, Changing Analyzer, and Exiting LCD Emulator."

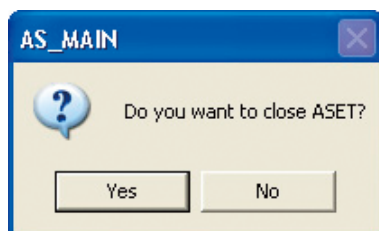


The Overview window is the base window for the Engineering Terminal. To use any function of the Engineering Terminal, this window must be started. It can be minimized to an icon using the Minimize button.

■ Exiting

● Operation procedure

- (1) With the Overview window displayed, click on the Exit command in the System menu.
The dialog box asking whether you want to exit ASET appears.



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- (2) Click the Yes button.

This disconnects communication with the analyzer server, exiting the Engineering Terminal.



TIP

How to use the Disconnect command

- If you wish to disconnect communication with an analyzer server without exiting the Engineering Terminal, use the Disconnect command in the System menu.
- For example, this feature is useful in using other software. Note that in this case, no measured values are sent from the analyzer.

■ Changing Analyzer Server

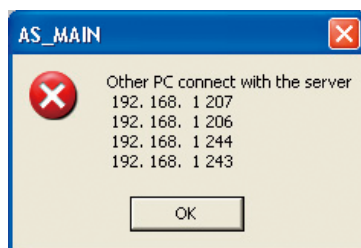
If multiple analyzer servers are connected to the network, the Engineering Terminal allows you to choose the analyzer server to be connected to.

The method of choosing an analyzer server and operation of the dialog box for selecting the analyzer server are the same as those for an LDC Emulator. See “Changing Analyzer Server” in section 2.1, “Starting LCD Emulator, Changing Analyzer, and Exiting LCD Emulator.”

■ Limitation on the Number of Users to be Connected Simultaneously

An analyzer server can communicate with multiple Engineering Terminals up to 4 sets at the same time.

If a user attempts to make communication connection with an analyzer server using Engineering Terminal while other 4 users are communicating with that analyzer server using Engineering Terminal, this connection cannot be established. In this case, a message box appears indicating the currently connected PC's IP address.



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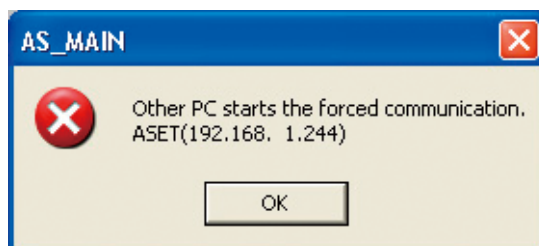
■ Forced Connection

Forced connection is a connection means to establish a communication connection even if the analyzer server to which you wish to connect is connected to four ASETs.

If the analyzer server you wish to connect to is connected to less than four ASETs, forced connection starts without interruption.

If you attempt to execute a new forced connection to an analyzer server that is already connected to four ASETs, the forced connection dialog box appears. In this dialog box, you can choose a connection to force to be disconnected, then click the Forced Connect button. This allows your forced connection to be made and established (last priority).

Note that forced connection requires password entry. Please refer to User's Manual of GC8000 (IM 11B08A01-01E) or Password Manual (IM 11B03A03-07E). When forced connection is executed, the following message box appears.

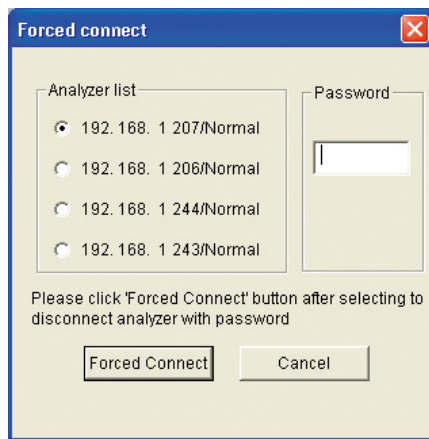


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● Operation procedure

- (1) Click the Force Connect button on Connect menu, then a dialog box for typing the password appears.
- (2) Entry the password and click Execute button.

When a user level C password is entered, force connection takes place.



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**CAUTION**

If another user performs forced connection while forced connection is being made, the original attempt at forced connection communication will be disconnected.

3.2 Configuration of the Overview Window

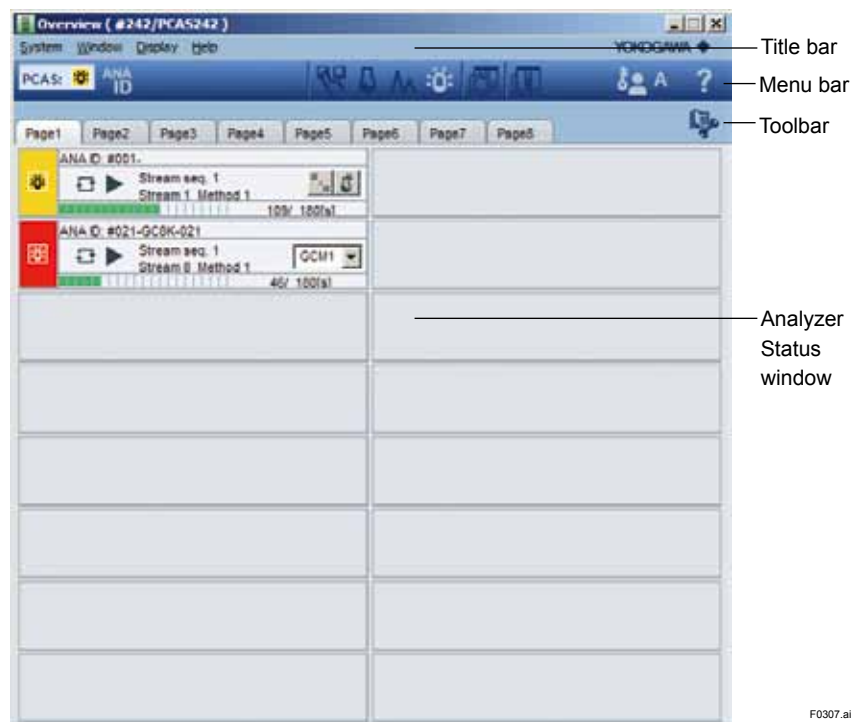
The Overview window is the base for the Engineering Terminal.

It collectively displays the operation statuses and latest analysis results of multiple analyzers. It also allows you to select the operation mode, etc.

It updates analyzer information every 1 second.

■ Element Names

The following shows the names of the elements of the Overview window.



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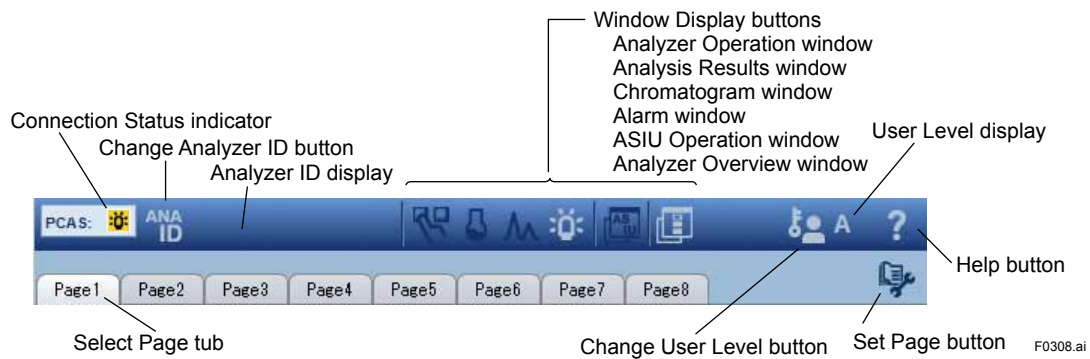
■ Title Bar

The title bar indicates the window name.

■ Toolbar

The toolbar consists of buttons that operate frequently used commands and text boxes that show the condition of the Engineering Terminal functions.

● Toolbar configuration



● Functions and display of elements

The following shows the functions and display information of the elements.

Buttons/Display	Function and Display Information
Change User Level button	Used to change the user level.
Window Display button	Displays the relevant window.
Change Analyzer ID button	Used to change an analyzer ID.
Select Page button	Selects the page to be displayed in the Analyzer Status window.
Set Page button	Allows you to set an analyzer to be displayed in each page of the Analyzer Status window.
Help button	Displays a Help window.
PCAS Alarm display	Displays the alarm status of PCAS. <ul style="list-style-type: none"> Green: No alarm Yellow: Level-2 alarm has occurred. Red: Level-1 alarm has occurred.
Analyzer ID/Tag display	Displays the ID and tag numbers of the analyzer selected as the object for operations. If no analyzer has been selected, the field is blank.
User Level display	Displays the currently set user level.
Page Number display	Displays the page number of the currently displayed Analyzer Status window.

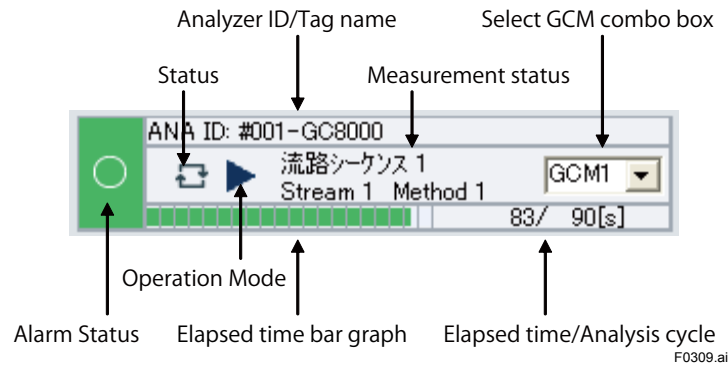
■ Analyzer Status Window

This is the main section of the Overview window, displaying the statuses of individual analyzers. It consists of eight pages, and a single page can display the statuses of up to 16 analyzers. Which analyzers to display can be freely set in each page. The data is up dated each 1 second automatically.

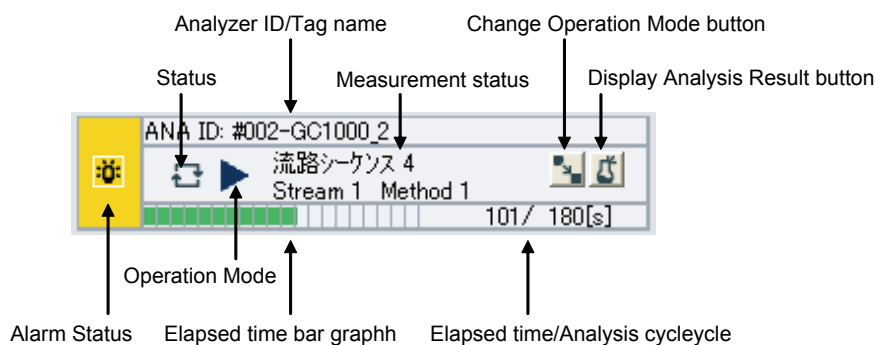
● Configuration

The display of the Analyzer Status window differs depending on the analyzer type. See Chapter 4 for GC8000. See Chapter 5 for GC1000 Mark II. See Chapter 6 for ASIUs.

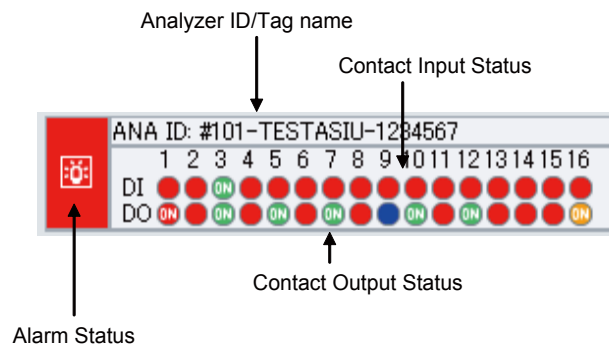
For GC8000



For GC1000 Mark II



For ASIUs



3.3 Changing User Level

There are three user levels for analyzers. As the default, user level “A” which only permits confirmation of the operation window(s) is set.

If you wish to change the user level to one allowing operation control, enter a password to change to the desired user level.

Please refer to User's Manual of GC8000 (IM 11B08A01-01E) or Password Manual (IM 11B03A03-07E).

■ Types of User Levels

There are three kinds of user levels: A, B, C and C+.

As the level rises from A to B to C to C+, the range of operations available for operation windows broadens. To obtain user level "B", "C" or "C+," you need to enter a password.

Only checking the conditions can be achieved using user level A; however, the following operations require user level "B", "C" or "C+."

	Window	Item	User Level
GC8000	Overview window	Forced Connect	C or C+
		Language	C or C+
		Alarm Popup	C or C+
	Analyzer Overview window	Operation mode Change	B, C or C+
		Reload Initial Database	B, C or C+
		Transferring parameters to/from analyzer	C or C+
		Upload User Script	C or C+
		Download User Scrip	C+
		Memory Dump	C or C+
	Analyzer Operation window	Changing GC state	C or C+
		Changing Operation mode	B, C or C+
		Change Measurement state	B, C or C+
		Valve operation (manual) of analyzer	C or C+
		Chanhge Set up	C or C+
	Chromatogram window	Backup Analysis Result	C+
		Restore Analysis Result	C+
		Re-integration	C+
	Analysis Results window	Setting the Number of History Data	B, C or C+
		Editing figures	C+
		Re-integration	C+
	Alarm window	PCAS Alarm History	B, C or C+
		Clear alarm history	C or C+
GC1000 MarkII	Overview window	Changing analyzer operation mode	B, C or C+
		Changing analyzer measurement state	B, C or C+
		Transferring parameters to/from analyzer	C or C+
	Analyzer Operation window	Changing analyzer operation mode	B or C
		Changing analyzer measurement state	B or C
		Valve operation (manual) of analyzer	C
		Transferring parameters to/from analyzer	C *1
		Resetting an analyzer	C *1
	Alarm window	Clear alarm history	C or C+

*1: In case of analyzer single mode.

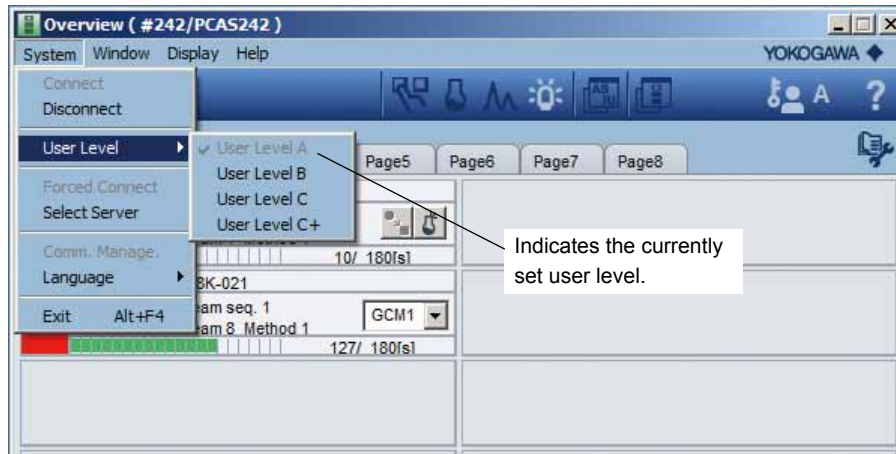
■ Changing User Level

This paragraph describes the user level changing procedure, using the changing of the user level to “C” as an example.


● Operation procedure

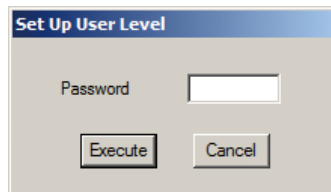
- (1) Click on the User Level command in the System menu.

The User Level submenu appears.

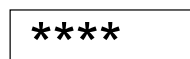


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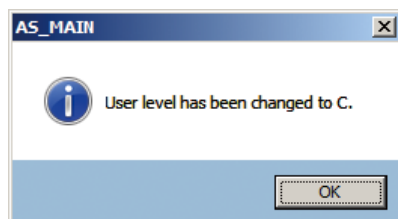
- You can also conduct this operation by clicking the  button on the toolbar. In this case, a dialog box appears instead of the submenu.
- (2) Click on Level (C).
The Set Password dialog box appears.



- (3) Enter the password.
Example: Condition where a password has been entered:



- A password is a four-digit number. When you enter the password, asterisks (*) are displayed, letting you know only the number of digits entered.
- (4) Click the Execute button.
The Confirmation dialog box appears.



- (5) Click the OK button.
This causes user level “C” to be set.


3.4 Displaying Analyzer Status

The Analyzer Status window consists of eight pages, and each page can display the statuses of up to 16 analyzers.

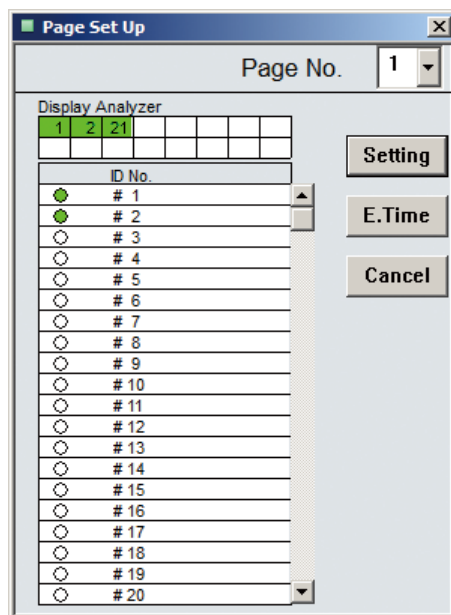
■ Setting Analyzer(s) to be Displayed (Page Setting)

Set analyzer(s) to be displayed for each page.

● Operation procedure

- (1) Click on the Set Page command in the Display Setting menu.
 - You can also conduct this operation by clicking the  button on the toolbar.

The dialog box for setting analyzer(s) to be displayed appears.



The “Analyzers to be Displayed” section displays the ID numbers of the analyzers currently set for display on that page in green.

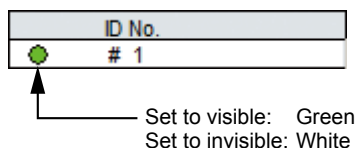
A list of analyzers below this section shows the ID numbers of all the analyzers registered for the analyzer server, and the marks indicates whether the analyzer is set for display.

- (2) Clicking the arrow to the right of the “Page No.” box causes a list of page numbers to appear. Click and choose the page number where you wish to make the setting(s).

When the dialog box is displayed, the number of the page currently being displayed is the one that appears there.

- (3) Set the analyzer to be displayed. Double clicking on the frame of an ID number in the list of analyzers allows switching between visible/invisible.

Each frame of the analyzer list is organized as follows:



F0316.ai

- (4) If you wish to make settings on another page, repeat steps (2) and (3).
- (5) After setting all desired analyzers, click the Set button and then the Exit button.

If you click the Exit button before clicking the Set button, a dialog box appears asking whether you want to save settings. Also, clicking the Cancel button causes the operation to be exited without saving the settings.

This returns you to the Overview window, and the settings are reflected in the page being displayed.


TIP

- Page settings that have been newly made are saved in a file and are ready to be put into effect at a later time.
- If you change the page settings, the Latest Analysis Results window that was previously displayed will be closed.

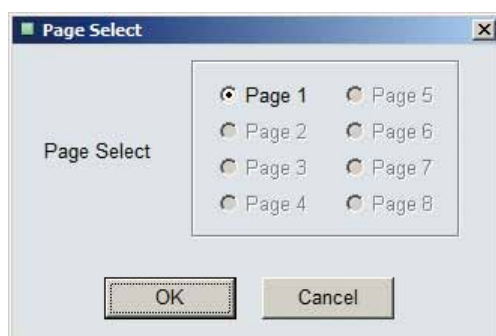
■ Selecting Page

Choose a page to be displayed.

● Operation procedure

- (1) Click on the Select Page command in the Display Setting menu.
 - You can also conduct this operation by clicking the  button on the toolbar.

This causes the Select Page dialog box to appear.



The pages to which analyzers have been set are displayed in black type; those to which no analyzer has been set are greyed out.

- (2) Choose the page to be displayed and click the OK button.

This returns you to the Overview window, and the selected page is displayed in the Analyzer Status window.

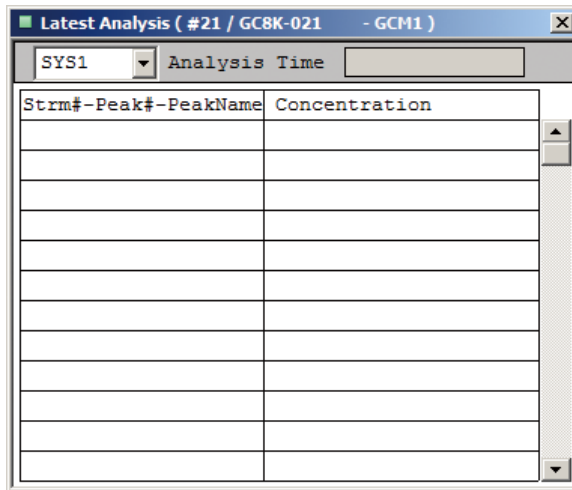
3.5 Displaying the Latest Analysis Results Window

The Latest Analysis Results window displays the latest analysis results (peak-basis concentration) for each analyzer. It facilitates the simultaneous display of the latest analysis results of multiple analyzers. Display data are updated at every analysis interval.

The portion of the analysis results not visible in a single window can be seen by scrolling with the scroll bar.

Note that if you switch the page to another while this window is displayed, the original window will be erased.

● Configuration



● Functions and display information of elements

Display Item	Function and Display Information
Title bar	Shows the object analyzer ID number as well as the window name.
Analysis Start Time	Indicates the time of day at which analysis of the displayed data was started.
Stream#-Peak#-Peak Name	Indicates the stream number, peak number, and peak name, delineated by "-". For results obtained in Lab mode or Manual mode, the stream number indicated is "32."
Concentration Value	Indicates the concentration value in %, ppm or "No unit" as a peak-basis analysis result.




CAUTION

If the peak setting is modified from the analyzer unit side while the Latest Analysis Results window is being displayed, exit the Engineering Terminal and then reboot it. Continuing to display the Latest Analysis Results window without a reboot may cause the analysis results to be incorrect.

■ Display

● Operation procedure

Click the  button (Analyzer Status window) of the analyzer for which you wish to display the Latest Analysis Results window.

The Latest Analysis Results window appears.

■ Exiting

● Operation procedure

Click on the Close command in the Control menu in the Latest Analysis Results window.

The Latest Analysis Results window is closed.


3.6 Selecting Analyzer

To display any window other than the Overview window or perform operations for a specific analyzer, you need to first specify the ID number of that analyzer.

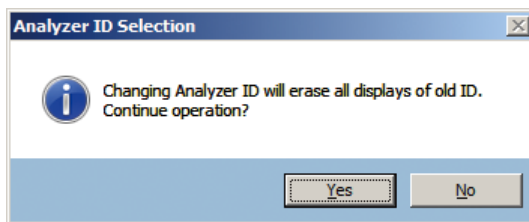
This section describes how to specify the analyzer ID.

There are two ways of specifying the analyzer ID: a method specifying it using a command or a button, and that of specifying it from the Analyzer Status window.

● Method of specifying analyzer ID using a command or a button

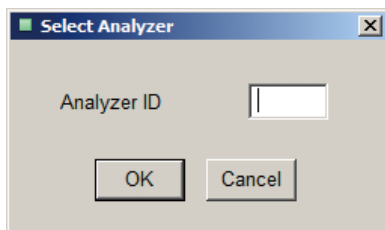
- (1) Click on the Analyzer ID command in the Display Setting menu.
 - You can also conduct this operation by clicking the  button on the toolbar.

The following message appears asking whether you want to continue operation.



- (2) Click the Yes button.

A dialog box for entering an analyzer ID appears.



- (3) Enter the analyzer ID number.
- (4) Click the OK button.

The specified analyzer ID is set and displayed in the analyzer ID display section on the toolbar.

● Method of specifying analyzer ID from the Analyzer Status window

On the Analyzer Status window, double click on the inside of the ID number frame of the analyzer you wish to specify.

The specified analyzer ID is set and displayed in the analyzer ID display section on the toolbar.



When the selected analyzer's ID has been set, all windows other than the Overview window will be erased because the corresponding analyzer is changed. Also, the database of the newly set analyzer is uploaded to memory; this takes some time.

3.7 Uploading and Downloading Analyzer Setting Parameters

When incorporating the settings specified in the Set Parameter List window of the LCD panel into another analyzer, or when creating a backup for re-setting, you upload and download the parameters.

Before transferring the parameters, you need to specify the ID number of the analyzer to operate.



SEE ALSO

For specifying the analyzer ID number, see section 3.6, "Selecting Analyzer."



CAUTION

To upload and/or download setting parameters, user level change is required. Please refer to 3.3 Changing User Level. Besides, upload and/or download setting parameters from overview-screen is allowed only the case of GC1000 MarkII. Also, the operation status must be changed to "Stop."

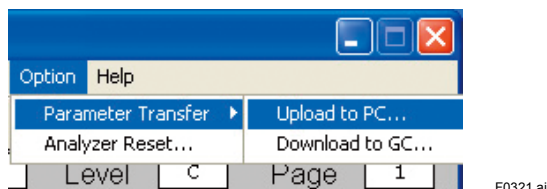
■ Uploading

To upload the set parameters from the analyzer and save them to the Engineering Terminal disk, proceed as follows:

● Operation procedure

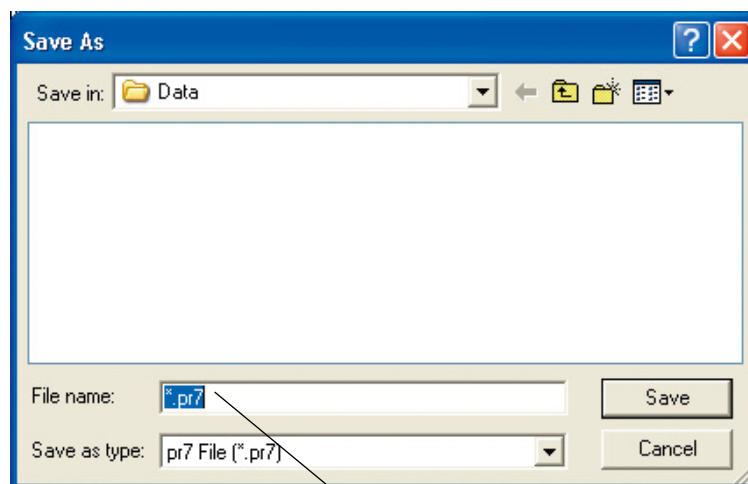
- (1) Click on the Parameter Transfer command in the Option menu.

The submenu for transferring parameters appears.



- (2) Click on the Upload to PC command.

The Save As dialog box for specifying a setting parameter file appears.



Enter a file name.

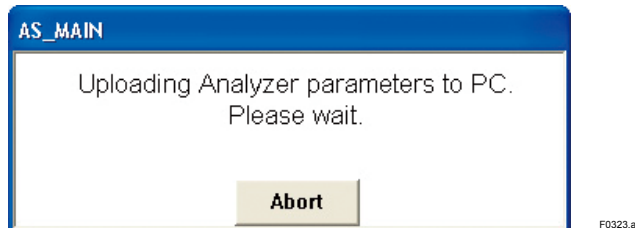
- (3) Enter the file name for the setting parameters to be saved under, preceding the extension “.px1” (“.pr7”), and click on the “Data” directory which is preserved for saving.

Example: Where “system01” is specified as the file name:

system01. pr7

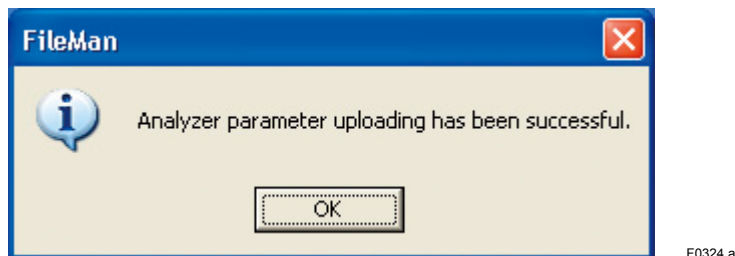
- (4) Click the OK button.

The AS_MAIN dialog box appears, indicating that uploading the setting parameters from the analyzer is taking place.



When all the setting parameters have been saved to the file, the FileMan dialog box appears.

Note that uploading the parameters to the Engineering Terminal takes about 10 seconds.



- (5) Click the OK button.

This completes the uploading process.

HELP !

If you wish to interrupt the uploading of setting parameters,

- Click on the Interrupt command in the File menu.
A Confirmation dialog box appears.
- Click the Yes button.

■ Downloading

To download setting parameters from the Engineering Terminal to an analyzer, do the following:



CAUTION

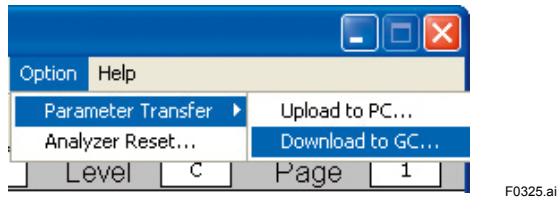
- It is recommended that the work of download is done by Yokogawa service engineer.
- Please make the back up parameter file by uploading before download work start.
- Please use latest parameter (.px1) which is already upload. IP address is stored in the parameter file and GC and HMI can not communicate if in case IP address is changed.
- It is recommended that the GC is connected with PC which is installed Engineering Terminal only. It should be better to separate from other device on the network during download work.
- The downloaded parameter is valid after OFF/ON the GC power.

- If the parameters have been written to an analyzer, exit the Engineering Terminal and then restart it. If you do not restart, data cannot be displayed properly.
- If in case the GC can not be connected with the PC which is installed the Engineering Terminal after download work, please contact Yokogawa service engineer to recover the situation.

● Operation procedure

- (1) Click on the Parameter Transfer command in the Option menu.

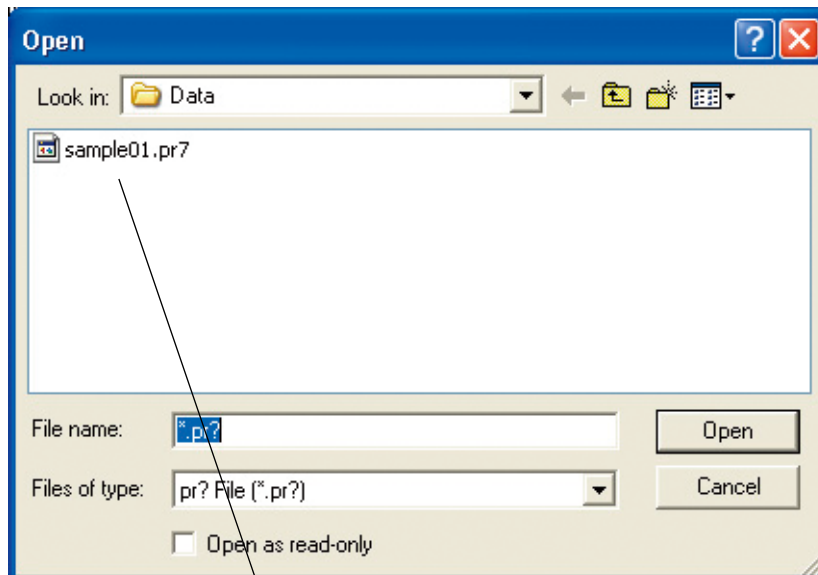
The submenu for transferring parameters appears.



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- (2) Click on the Download to GC command.

The Open dialog box for specifying the setting parameter file appears.

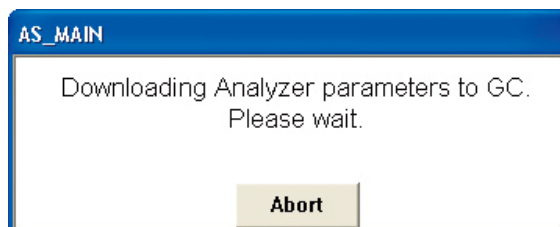


Click here.

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- (3) Enter the file name and click the Open button.

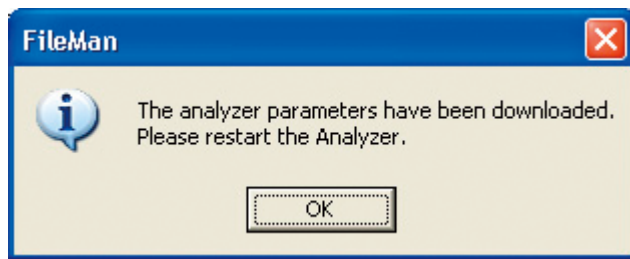
The AS_MAIN dialog box appears indicating that the setting parameters are being downloaded to the analyzer.



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When all the parameters have been transferred from the Engineering Terminal to the analyzer, the FileMan dialog box appears indicating the completion of the transfer.

Note that downloading parameters to an analyzer takes about 30 seconds.



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- (4) Click the OK button.
This completes the downloading process.
 - If you wish to interrupt the downloading of setting parameters, click on the Interrupt command in the File menu. For the Interrupt command, see the previous [\(HELP !\)](#).
- (5) Confirm new IP address in the network setting screen of EtherLCD (refer to section 5.4.14).
- (6) Turn the GC power OFF/ON. Then connect with the new IP address of (5).

3.8 Resetting Analyzers

You can soft-reset an analyzer.

Before conducting a reset, you need to specify the ID number of the analyzer to reset.



CAUTION

To conduct a reset, user level change is required. Please refer to 3.3 Changing User Level. Besides, analyzer reset from overview-screen is allowed only the case of GC1000 MarkII. Also, the operation status must be changed to "Process/Lab - Stop."

Performing this operation to reset an analyzer forces measurement to be interrupted. Only use this feature if absolutely necessary.

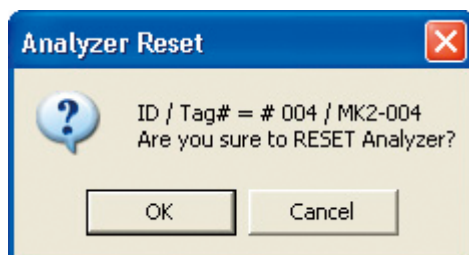


SEE ALSO

For specifying an analyzer ID number, see section 3.6.

● Operation procedure

- (1) Click on the Reset Analyzer command in the Option menu.
A dialog box appears asking whether you want to reset the analyzer.
Example: For the analyzer with ID number 4



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- (2) Click the OK button.
A dialog box appears indicating whether the reset command was accepted.
- (3) Click the OK button.

When the reset command has been accepted, individual communication with the analyzer is disconnected and the Analyzer Operation window, Chromatogram window, Alarm window, and Analysis Results window will automatically be closed. Communication with the Overview window is also disconnected, but will be automatically restored after the analyzer is reset.



CAUTION

The Analyzer Reset command can be selected from the menu only when the analyzer being connected is in Remote mode. If the analyzer is in Local mode, set the operation mode to Remote and then choose the Reset command from the menu.

3.9 Displaying Other Windows

The Overview window is the basic window of the Engineering Terminal. All windows other than the Overview window are displayed from the Overview window.

This section describes how to display windows other than the Overview window.

■ Displaying Each Window

The following describes how to display each window.



CAUTION

Except for the Overview window, only windows associated with a specific analyzer can be displayed. If you wish to change to a window corresponding to another analyzer, exit the window you are currently in, change the analyzer ID, and then display the desired window.



TIP

- Generally, only one window can be displayed at a time; however, different types of windows, such as the Analyzer Operation window and the Analysis Results window, can be displayed simultaneously.

● Operation procedure

Click on the desired window command in the Window menu.

- You can also conduct this operation by clicking the relevant window display button on the toolbar.

The specified window appears.

■ Redisplaying a Window

As you use a number of windows or other applications, there are instances when the window you wish to view is hidden by other windows. The following describes how to bring a specific hidden window to the front from the Overview window.



TIP

The Change Application command in the Control menu only allows you to display the Overview window and the Analysis Results window.

● Operation procedure

- (1) Click on the Window menu.

The windows already being displayed will have a check mark at the left of each window.

- (2) Click on the command that displays the window you wish to redisplay.

The hidden window is brought to the front.



TIP

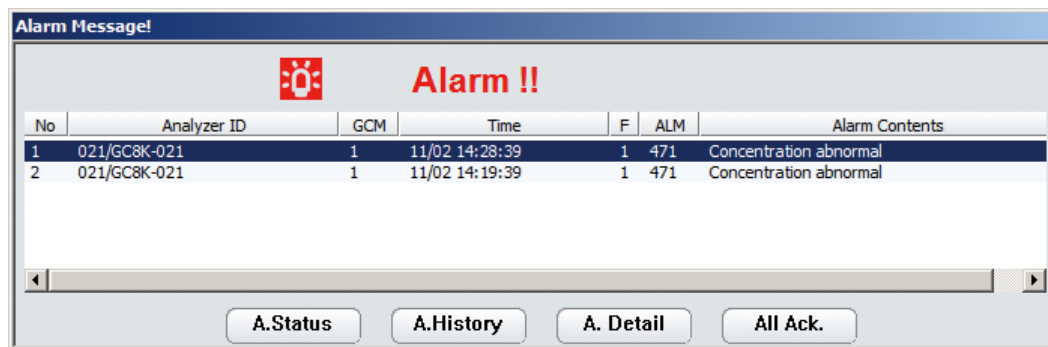
Although you cannot see which windows are already opened, the window display buttons on the toolbar also allow you to bring a hidden window to the front.

3.10 Countermeasures for Alarms

If an alarm occurs on the analyzer side while the Engineering Terminal is being used, an alarm message box appears informing you of its occurrence.

■ Alarm Message Box

If an alarm occurs, the following alarm message box appears.



● Functions and display information of elements

Analyzer ID: Indicates the ID number of the analyzer in which the alarm occurred.

Occurrence Time: Indicates the time of day at which the alarm occurred.

ALM: Indicates the alarm number.

Alarm Information: Indicates the details of the alarm that has occurred.

Alarm Status button: Calls up the Alarm Status window.

Alarm History button: Calls up the Alarm History window.

Alarm Detail button: Displays the Detailed Information window of the alarm that has been selected using the mouse (indicated in yellow). In this case, the selected alarm is deleted from the list.

All Clear button: Closes the window (alarm message box) announcing that an alarm has occurred. If it is not necessary to check the details of individual alarms, click this button.

If all of the alarms are not visible in the window, you can scroll through the display using the scroll bar.



SEE ALSO

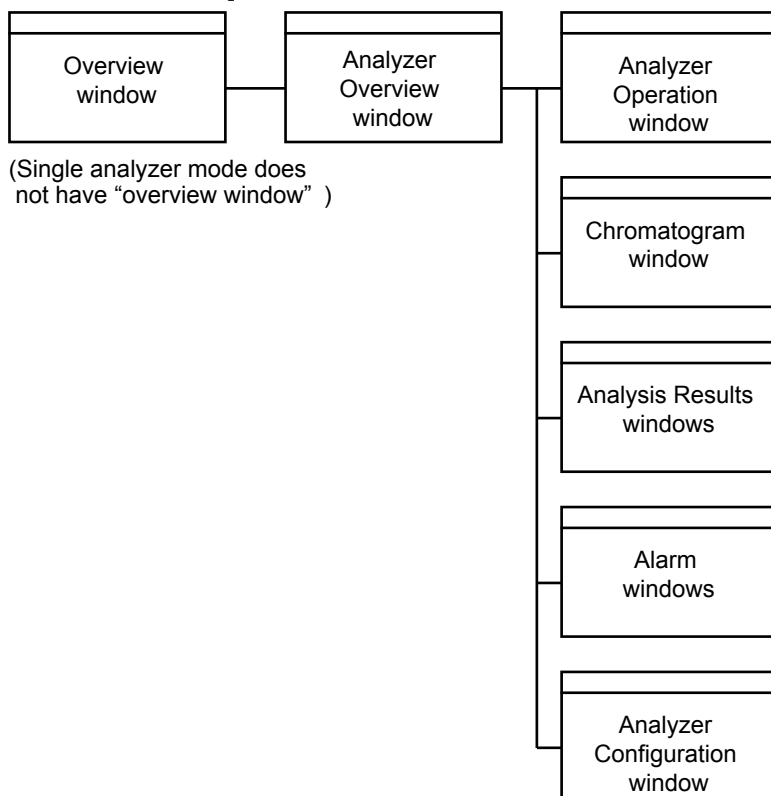
For the Alarm window, see Chapter 6, "Alarm Window."

4. Display and Operations while Connected to GC8000

This chapter describes the display and operations of the Overview window when the GC8000 is connected.

“ASET-S01 (Single analyzer mode)” does not have the overview window.

[Associated windows]



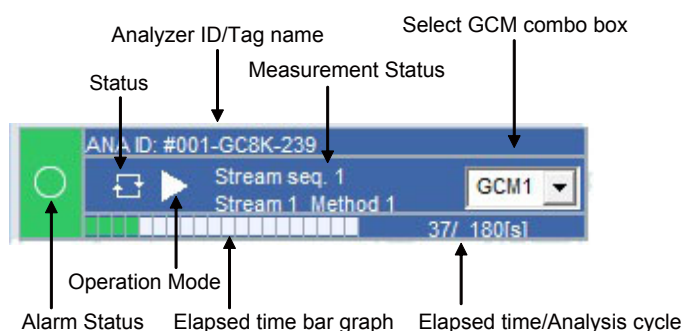
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4.1 Overview Window









● Configuration

The Analyzer Status window is the main part of the Overview window. It displays the latest operation states of up to 16 analyzers that have been specified in advance, and updates display data automatically at 1-second intervals. You can click a button in the window to change the operation mode or to display the Latest Analysis Results window.

The analyzers displayed in the Analyzer Status window when the Overview window is displayed for the first time after installation are those automatically selected from the analyzers specified for the analyzer server. To switch to the desired analyzer display, execute the Display Setting and Set Page commands.



● Functions and Display Information of Elements

Button/Display	Function and Display Information
Analyzer ID and Tag name	Indicates “#xxx-tag name” (where, xxx is the analyzer ID and the tag name consists of up to 16 characters) after “ANA ID:”
Alarm Status	 (No alarm),  (Level-2 alarm), or  (Level-1 alarm) is indicated. The Alarm Status window appears when the button is double-clicked.
Status	 (Process) or  (Manual) is indicated.
Operation Mode	 (Run),  (Pause), or  (Stop) is indicated.
Measurement Status	Indicates the “Stream sequence n”, “Stream (Continuous)”, “Calibration n”, “Validation n”, “Stream n”, “Method n” in this format. (“n” is a single digit.)
Elapsed time/Analysis cycle	Indicates the on-going analysis using a progress bar. They are indicated in the “Elapsed time/Analysis cycle” format.
Select GCM combo box	Indicates the currently selected GCM number. All GCM numbers being set for the target analyzer are shown on the list. “GCM1” is indicated when the Overview Window is opened. When another page is displayed, the previously displayed GCM number is saved.
Disabled communication	If communication is disabled, “Disable” is indicated at the right of the tag name.

4.2 Analyzer Overview Window

The Analyzer Overview window monitors the status of up to 6 GCMs of the currently connected GC8000. The following shows an example of the window.



Figure 4.1 Analyzer Overview window (for 6 GCMs)



Figure 4.2 Analyzer Overview window (for 1 GCMs and 1 systems)

4.2.1 Toolbar

The toolbar consists of the toolbar buttons and the text window to indicate the ASET status.

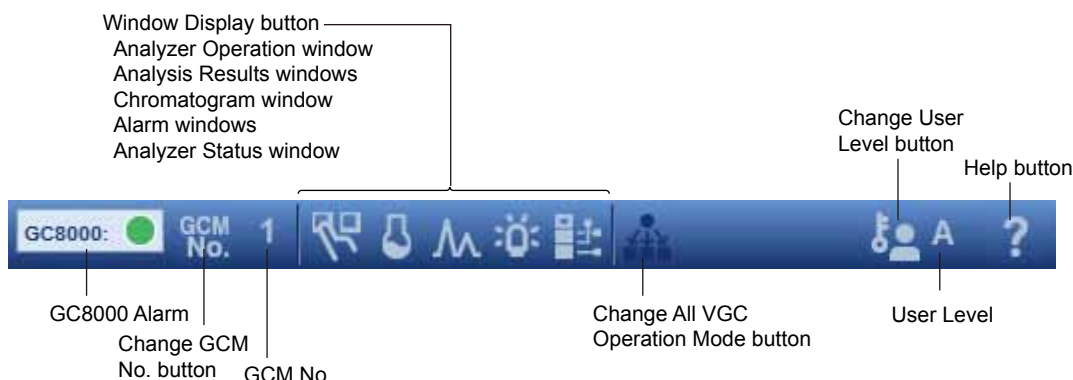


Figure 4.3 Detailed explanation of toolbar

Table List of each element functions

Button/Display	Function and Display Information
Change User Level button	Displays the Change User Level dialog box. Use this button to change the user level (A, B, C, or C+).
Window Display button	Displays the relevant window. If a window cannot be displayed, its button is grayed out.
Change GCM No. button	Displays the Change GCM Number dialog box. Use this button to change the active GCM.
Change All GCM Operation Mode button	Displays the Change All GCM Operation Mode dialog box. This button changes the operation mode of all GCMs of the analyzer simultaneously.
Help button	Displays a Help window.
GC8000 Alarm	Displays the alarm status of the entire GC8000. The most serious alarm status level of each GCM is indicated. ● Green: No alarm ● Yellow: Level-2 alarm has occurred. ● Red: Level-1 alarm has occurred. The alarms have the following severity levels. Level 1 is the highest level of severity. Level 1 → Level 2 → (Level 3) → No alarm
GCM#	Indicates the active GCM number. This is empty (deselected) when this window is opened.
User Level	Displays the currently set user level.

4.2.2 GCM Status Display Area

The GCM Status Display area shows each GCM status of the GC8000. The number of display areas depends on the GCM count (1 to 6) held by the GC8000.

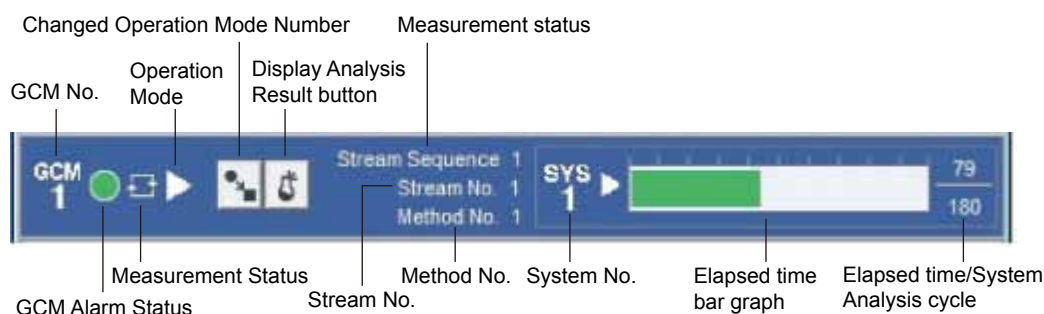


Figure 4.4 Detailed description of GCM Status Display area

Table List of each element function

Display	Function and Display Information
GCM No.	Indicates the GCM number (1 to 6).
Operation Mode	Indicates the GCM operation mode (Run, Pause, or Stop).
Status	Indicates the GCM status (Process or Manual).
Stream No.	Indicates a stream number (1 to 31) being measured by the GCM. In the Process Stop status, the stream number is empty. In the Manual status, the item itself is hidden.
Measurement Status	Indicates the current measurement status of GCM (such as stream sequence, stream specification, and calibration/validation). If the stream specification is selected, the current number of measuring times and the number of times to measure are indicated. (Example: Stream specification (7/10)) Also, if the number of times to measure is zero (Continuous), "Stream specification (Continuous)" is displayed. In the Manual status, this item itself is hidden.
Method No.	Indicates the current method number (1 to 6) of the GCM. In the Process Stop status, the stream number is empty. In the Manual status, the item itself is hidden.
GCM Alarm Status	Displays the alarm status of GCM. ● Green: No alarm ● Yellow: Level-2 alarm has occurred. ● Red: Level-1 alarm has occurred. When you double-click this indication, the Alarm Status window of the GCM appears.
System number	Indicates a system number (1 to 6) of the GCM.
System Operation mode	Indicates the system operation mode (Run, Pause, or Stop).
Elapsed time/System Analysis cycle	Indicates the time (in seconds) that has elapsed from the start of system analysis and the cycle (in seconds) of SYS analysis. In the Stop operation mode, "0/ ---" is displayed. While in the Manual Run mode, "100/ ---" is displayed and only the elapsed time is updated.
Elapsed time bar graph	Indicates the progress of measurement (in percentage) in a bar graph based on the elapsed time and the GCM analysis cycle. The green area increases when the measurement proceeds. If the GCM analysis cycle is greater than the system analysis cycle, the odd-numbered analysis is turned green and the even-numbered analysis is turned aqua.
Change Operation Mode button	Displays the dialog box used to change the operation mode. You can change the operation mode of the corresponding GCM. You cannot select this option in the Manual status. See Subsection 4.2.5 "Change Operation Mode."
Display Analysis Result button	Displays the latest analysis result window of the corresponding GCM. The Latest Analysis Results window is displayed for each GCM. You can open a multiple number of Latest Analysis Results windows for GCM simultaneously. See Subsection 4.2.6 "Latest Analysis Results window."

When you double-click any GCM display area, other than "GCM Alarm Status" area, the Change GCM Number dialog box opens. See Subsection 4.2.4 "Selecting GCM No."

4.2.3 User Level

In addition to the conventional user levels, level “C+” has been added for connection to the GC8000. User level A has the lowest privilege, and user level C+ has the highest privilege. The privileges assigned to each user level are summarized below.

Table Type of User Levels and Privileges

User Level	Privilege	Password
A	Allows the user to check the operation status and analysis results only. Does not allow the analyzer operation.	Not required (Default)
B	Among the analyzer operations, this level allows the user to change the operation mode, change the measurement status (except for cancel specification), and to change the range.	1192
C	Allows the user to check and set up all items of analyzer operation. However, re-integration of chromatogram and editing of analysis results are not allowed.	1603
C+	Allows re-integration of chromatogram and editing of analysis results.	1702

You can change the user level in the following procedure.

- **Changing the user level using the Change User Level button on the toolbar**

- 1) Click the Change User Level button on the toolbar, and the Set User Level dialog box appears.
- 2) From the Set User Level dialog box, select the desired user level. Then, click the OK button and the Set Password dialog box appears.
- 3) Enter the password and click the Execute button. When the password is correct, a message box showing “User level is set to xx” appears (where, “xx” is the new user level).

- **When changing the user level using the User Level command of Connect menu**

- 1) From the User Level command list of Connect menu, select the desired user level (A to C+).
- 2) The Password Input dialog box appears.
- 3) Enter the password and click the Execute button. When the password is correct, a message box showing “User level is set to xx” appears (where, “xx” is the new user level).

Note: No password input is requested when you change to user level A.



Figure 4.5 Set User Level dialog box



Figure 4.6 Password Input dialog box

4.2.4 Selecting GCM No.

You can select the active GCM as follows.

- Select the GCM Number command from the Window menu.
- Click the Change GCM Number button on the toolbar.

The active GCM number is shown when the Select GCM Number dialog box is opened. If the active GCM is not selected, this field is blank.

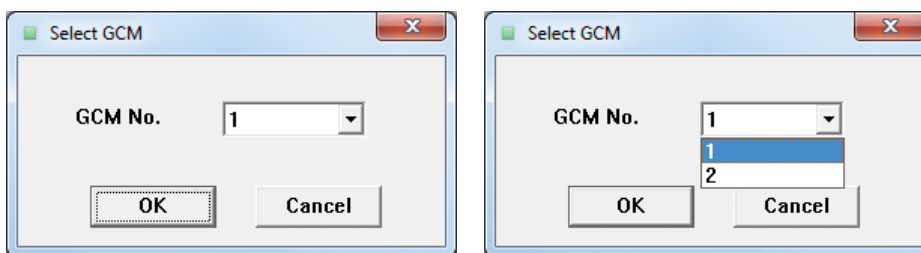


Figure 4.7 Select GCM Number dialog box
(If active GCM is selected (shown at left); if not selected (shown at right))

Select the GCM number and click the OK button, and the GCM having this number is selected. However, if an active GCM is already selected, the following confirmation message is displayed. If you respond with “Yes”, the select GCM Number dialog box is displayed.

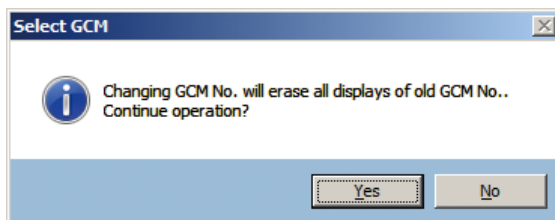


Figure 4.8 Confirmation message before changing the GCM number

You can select an active GCM directly by double-clicking the GCM display area. In this case, the GCM select dialog box is not displayed.

If an active GCM is already selected, the above confirmation box opened. If you respond with “Yes”, the active GCM is changed. If an active GCM is not selected yet, the GCM is selected immediately.

4.2.5 Changing Operation Mode

You can change the GC8000 operation mode.

To change the operation mode of the entire GCM, call the Change All GCM Operation Mode dialog box in either of the following ways.

- Select the Change All GCM Operation Mode command from the Operation Mode menu.
- Click the Change All GCM Operation Mode button on the toolbar.

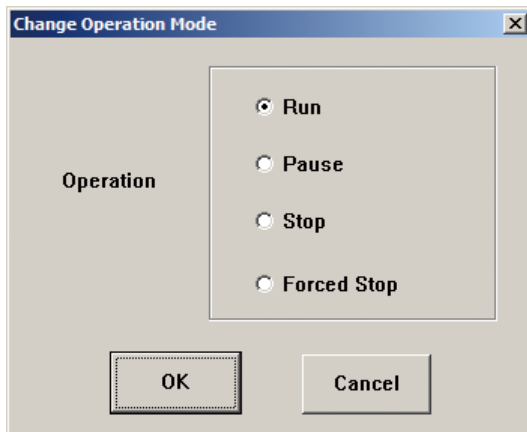


Figure 4.9 Change All GCM Operation Mode dialog box

From this dialog box (figure 4.9), you can select the Run, Pause, Stop, or Forced Stop mode. (Note that you can select the Forced Stop if you are at user level C+.)

To change the operation mode of each GCM, call the Change Each GCM Operation Mode dialog box in either of the following ways.

- From the Operation Mode menu, select the Change Operation Mode command.
- Click the Change Operation Mode button in each GCM display area.

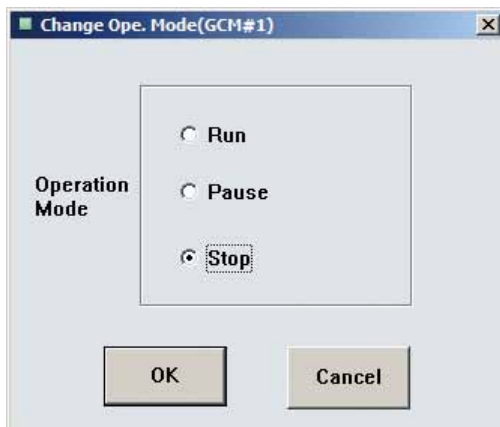


Figure 4.10 Change Each GCM Operation Mode dialog box

From this dialog box (figure 4.10), you can select the Run, Pause, or Stop mode.

In both dialog boxes, you can change the operation mode as follows.

- 1) Select an operation mode you wish to change, and click the OK button. A confirmation message showing "The operation mode is changed to xx" appears (where, "xx" is the selected operation mode). If the GCM is not in the Process status, the "The request for change of GCMx operation mode was rejected" message is returned (where, "xx" is a GCM number).

- 2) When you respond to the confirmation message with OK, the operation mode is changed for each GCM.

If the operation mode change request is rejected due to the operation conditions, a level-3 alarm is generated and its status information is given.

When you issue a Change All GCM Operation Mode request, multiple GCMs may not accept the specified operation mode. In such case, multiple sets of level-3 alarm are generated.

4.2.6 Latest Analysis Results Window

The Latest Analysis Results window lists the latest concentration of selected GCMs.

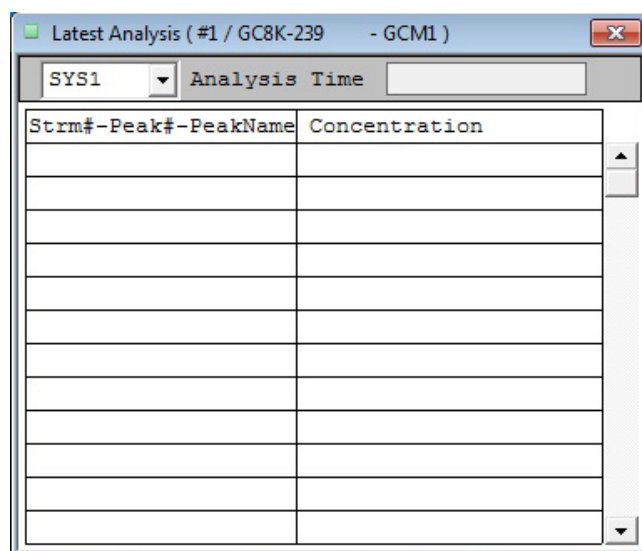


Figure 4.11 Latest Analysis Results window

The stream number and peak name are shown at left, and the concentration is shown at right. The concentration is shown as "???????" if it exceeds the upper or lower limit.

Up to 999 sets of peak concentration can be displayed. You can display a concentration outside of the window page by scrolling it.

The display of this window is refreshed when the latest analysis result of each GCM is obtained.

4.3 Analyzer Operation Window

The Analyzer Operation window displays the analysis status of each GCM and system of the connected GC8000 and allows the user to control their operations.

4.3.1 Configuration of Analyzer Operation Window

The following shows the element names of the Analyzer Operation window.

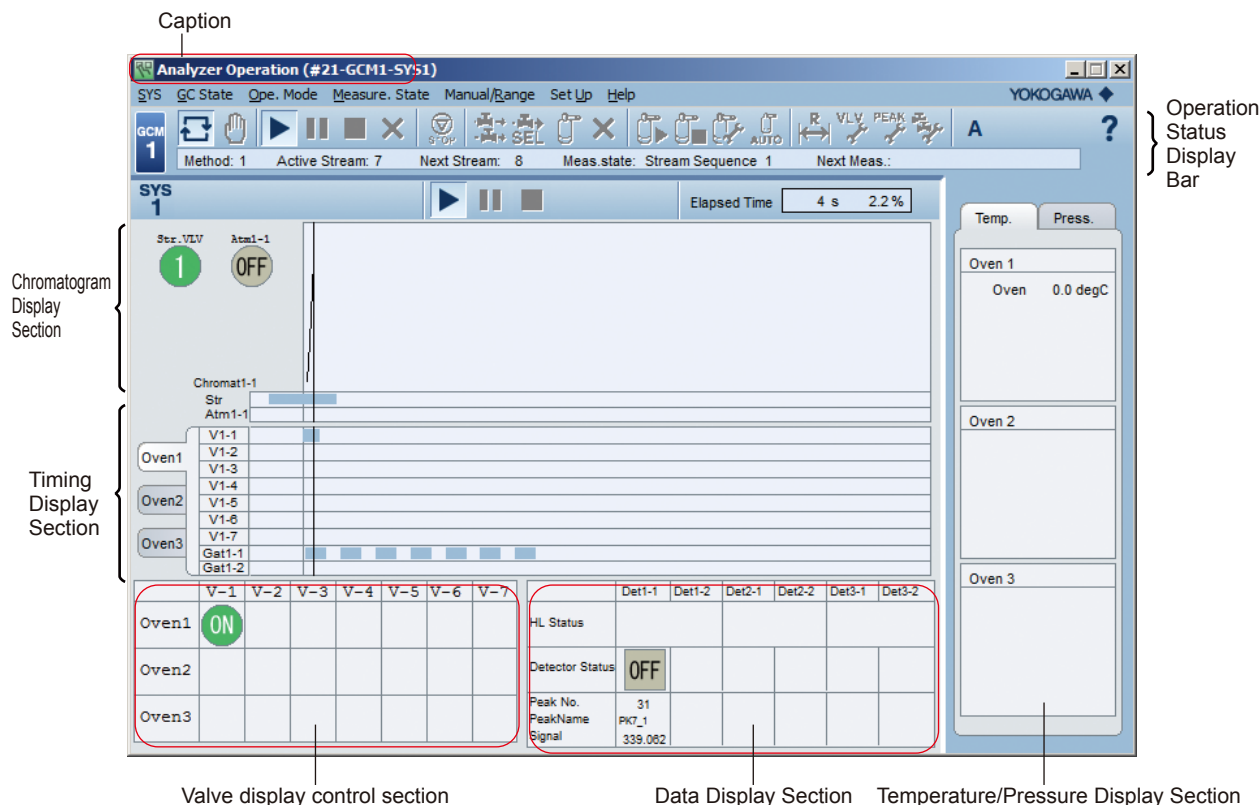


Figure 4.12 Element names of Analyzer Operation window (System 1)

4.3.2 Operation Status Display Bar

The Operation Status Display bar is a tool for monitoring the current operation status of the analyzer and for operating it.

- Window elements

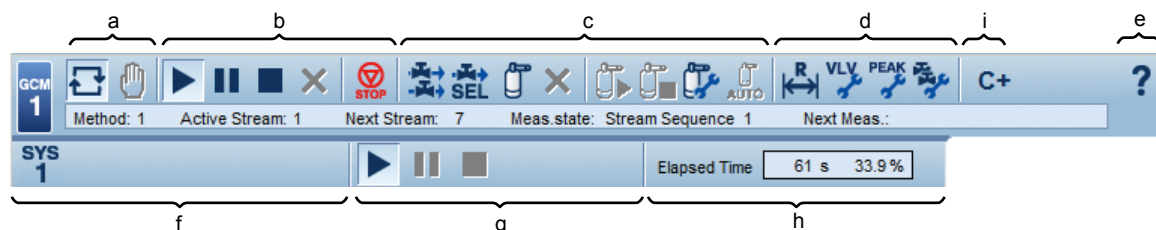


Figure 4.13 Operation Status Display bar

● Window elements





a: Status buttons

These buttons display the GCM status and operate it. The “Process” status is shown at left, and “Manual” status is shown at right.

b: GCM Operation Mode buttons

These buttons display the GCM operation mode and operate it. They are “Run”, “Pause”, “Stop”, “Forced Stop”, and “Command Cancellation” shown from left to right. They indicate the current operation mode based on the button status.

(Example) In the case of “Run” mode

Button Status	Description
	“Run” mode is running.
	A request for change of “Run” mode can be made.
	“Run” mode is reserved.
	A request for change to “Run” mode cannot be made.

c: Measurement status change buttons

These buttons change the GCM measurement status. They are “Stream Sequence”, “Stream specification”, “Cancel Setting”, “Start Calibration/Validation”, “Stop Calibration/Validation”, “Calibration/Validation Method”, and “Start/Stop Auto Calibration” shown from left to right.

d: Various setup change buttons

These buttons call a dialog box to change various settings of GC8000. They are “Range Change”, “Set Valve ON/OFF time”, “Set Up”, and “Set Stream Sequence” shown from left to right.

e: Help button

f: System select buttons

These buttons call the Analyzer Operation window of the specified system. If the selected window is already called, it is displayed on the top layer.

The system numbers used for GCMs are left-justified and displayed sequentially. The system number button is not displayed if its system is not used for the GCM.

g: System operation mode display buttons

These buttons indicate the operation mode of currently displayed system. They are “Run”, “Pause” and “Stop” shown from left to right.

h: Elapsed time display

Indicates the elapsed time (in seconds) of the displayed system and the ratio of elapsed time (in percentage) based on the analysis cycle.

i: User level display

Indicates the currently set user level.

In addition, the following information is shown by the operation mode display bar.

Table Information provided by the Operation Mode Display bar

Item	Description
Method	Indicates the current method number. It can be 1 to 6. This is left blank if the Manual status or the Stop Process is set.
Stream under Measurement	Indicates the number of the stream currently being measured. It can be 1 to 31. This is left blank if the Manual status and the Stop operation mode are set.
Stream to be Measured Next	Indicates the number of the stream scheduled to be measured next. It can be 1 to 31. This is left blank if the Manual status and the Stop operation mode are set.
Measurement Status	Indicates the current measurement status. For stream sequence: "Stream sequence 1" to "Stream sequence 8" For stream specification: "Stream specification (xxx/yyy)" where, "xxx" is the current number of measuring times, and "yyy" is the number of times to measure. "xxx" can be 0 to 999, and "yyy" can be 1 to 999. If the number of times to measure is set to zero (0) for "Stream specification (Continuous)" For calibration: "Calibration 1" to "Calibration 6" For validation: "Validation 1" to "Validation 6" During Dummy Task (Stream 33) measurement: "Replacement available" This is left blank if the Manual status is set.
Measurement status change queued	If the measurement status is specified to be changed, the measurement status change queue is displayed. For stream sequence: "Stream sequence 1" to "Stream sequence 8" For stream specification: "Stream specification" For calibration: "Calibration 1" to "Calibration 6" For validation: "Validation 1" to "Validation 6" This is left blank if the Manual status is set.

4.3.3 Operations from Operation Window

The following describes the operations selectable from the Analyzer Operation window.

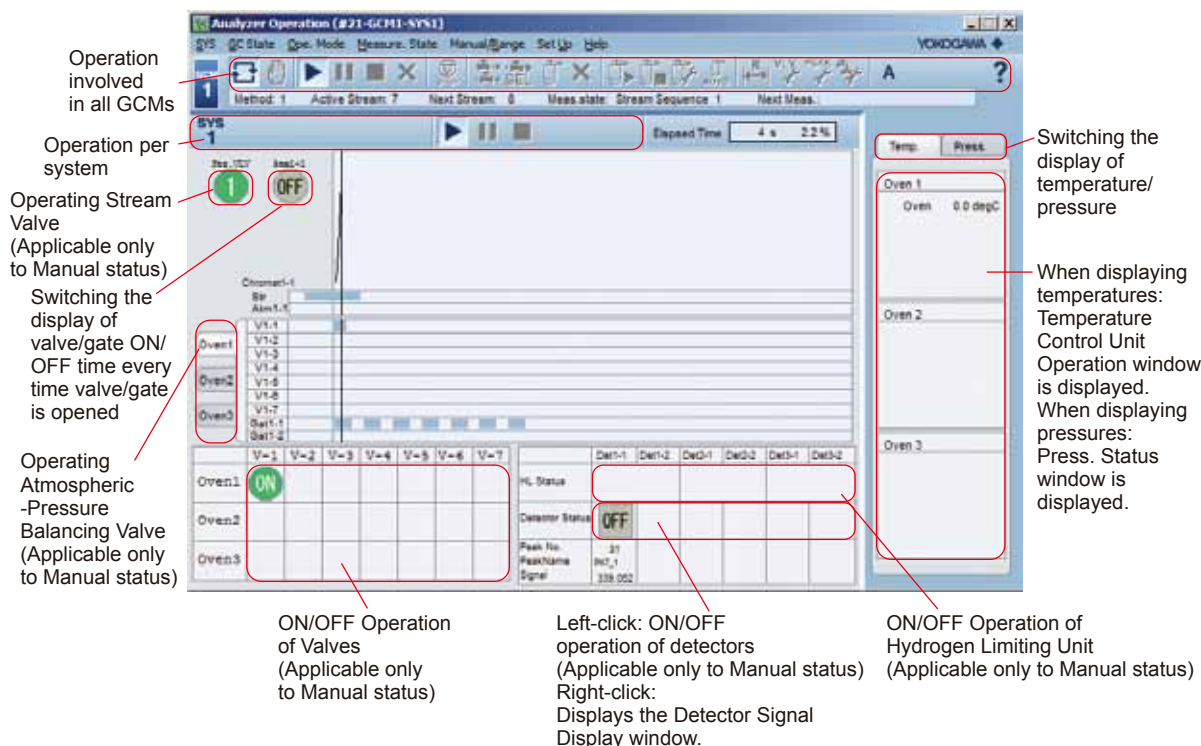


Figure 4.14 Element names of Analyzer Operation window

4.3.4 Changing Stream Sequence No.

To change a stream sequence number, select the Stream Sequence command from the Measurement Status menu. When the Stream Sequence dialog box appears, select a sequence number and click the Execute button. The measurement status is changed to the stream sequence of the specified number. (The sequence number can be 1 to 8.)



The stream sequence number will not be changed if any stream has not been allocated to the specified stream sequence number.

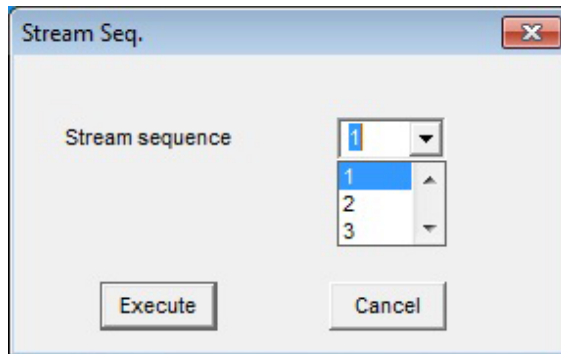


Figure 4.15 Stream Sequence dialog box

4.3.5 Changing Stream Specification

To change a stream specification, select the Stream Specification command from the Measurement Status menu. The Stream Specification dialog box appears.

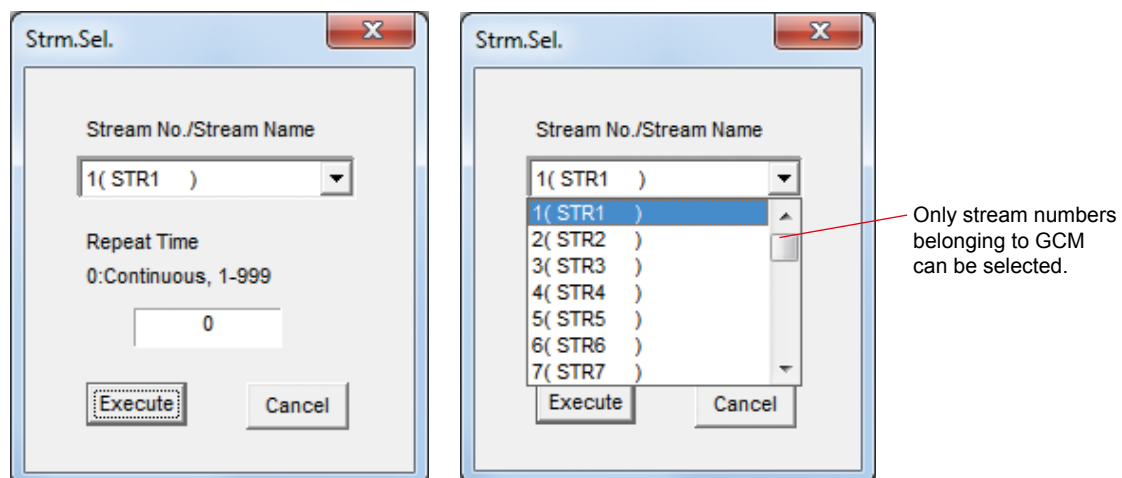


Figure 4.16 Stream Specification dialog box (The box when opened is shown at left, and the box for stream number selection is shown at right.)

Select a stream number and the iteration count, and click the Execute button. The measurement status is changed to the stream specification and the stream is measured for the specified number of times. Then, the operation is stopped automatically.

If you set the iteration count to zero (0), the specified stream is measured continuously.

4.3.6 Changing Calibration/Validation No.

To change a Calibration/Validation number, select the Calibration/Validation command from the Measurement Status menu. The Calibration/Validation dialog box appears.

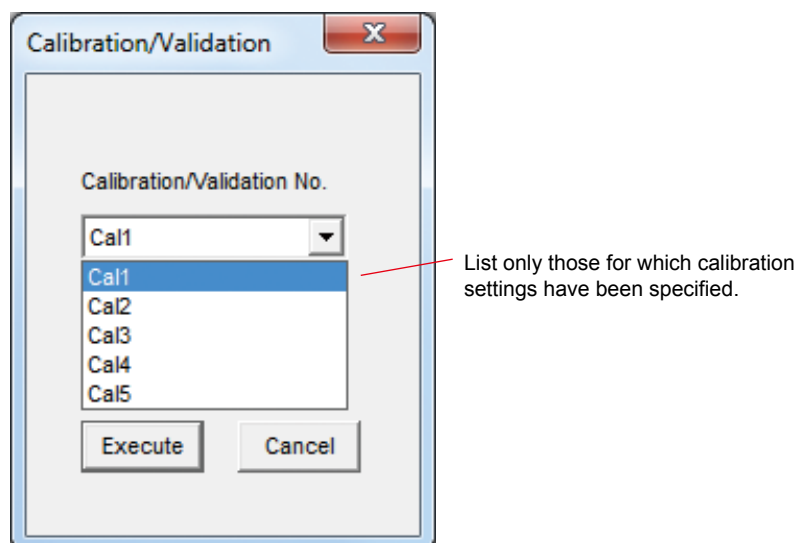


Figure 4.17 Calibration/Validation dialog box

From the Calibration/Validation dialog box, you can select any of Calibration 1 to Calibration 6, and any of Validation 1 to Validation 6.

If the stream number is not set, its option is not displayed. (If no stream number is set for Calibration/Validation, its button is grayed out and cannot be selected from the dialog box.)

When you specify a Calibration/Validation number and click the Execute button, the measurement status is changed to the Calibration/Validation of the selected calibration/validation number.

If you select a Dummy Task (Stream 33), the Stream under Measurement is changed to the "Replacement available." In this case, the Dummy Task (Stream 33) is measured continuously until you select the Start Calibration/Validation command from the Measurement Status menu. (The chromatogram is not saved and the analysis result is not calculated.)

4.3.7 Changing Calibration/Validation Method

To change the Calibration/Validation Method, select the Calibration/Validation Method command from the Measurement Status menu. The Calibration/Validation Method dialog box appears.

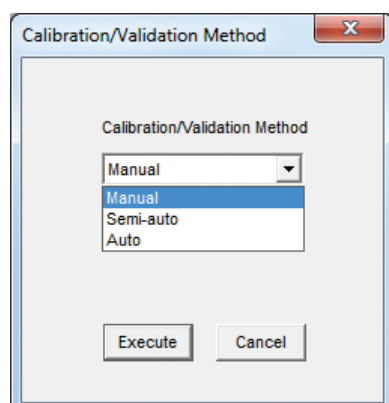


Figure 4.18 Calibration/Validation Method dialog box

Select a Calibration/Validation Method of either Manual, Semi-automatic or Auto, and click the Execute button. The Calibration/Validation Method is changed. The current Calibration/Validation Method is selected in the dialog box if it is opened.

If the initial analyzer database has been updated when you call this dialog box, the following message is displayed and you cannot start this dialog box. In such case, reload the initial database and recall this dialog box.

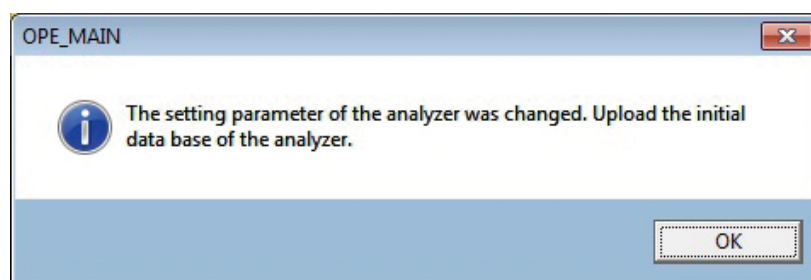


Figure 4.19 The message displayed if the initial analyzer database has been updated

4.3.8 Changing Auto Calibration Status

To change the Auto Calibration Status, select the Auto Calibration Status command from the Measurement Status menu, and click the Start button. The Auto Calibration function of active GCM is enabled. When you select "Stop" from the Auto Calibration Status command, the Auto Calibration function is stopped. You can also change the Auto Calibration Status of active GCM using the "Start/Stop Auto Calibration" button on the toolbar.

On the Start/Stop submenu, the currently selected option is checked.

If the Calibration/Validation Method is set to Semi-automatic or Manual, the Auto Calibration Status command is grayed out on the Measurement Status menu and it is inoperable. Also, the Start/Stop Auto Calibration button is grayed out on the toolbar.

4.3.9 Operating Stream Valve

To operate a stream valve, set the GCM to the Manual status and select the Manual or Stream VLV command from the Manual/Range menu. The Operating Stream Valve dialog box appears.



Figure 4.20 Operating Stream Valve dialog box

To turn the stream valve On, select ON. The stream number list of the GCM is displayed from the ON Stream Valve Number combo box. Then, click the Execute button.

To turn the stream valve Off, select OFF and click the Execute button.

You can also call this Operating Stream Valve dialog box by clicking the stream number display of the Analyzer Operation window.

4.3.10 Operating Valves

Operate valves in the following procedure. You operate valve 1-1 in this example.

Ensure the GCM is in Manual status. From the Manual/Range menu, select “Oven1”, “VLV” and “VLV1-1” commands in this order. Now, you can turn valve 1-1 on or off.

When the valve is Off and when you select this command, a confirmation message showing “The valve is turned On” appears in the message box. When you respond with “Yes”, the valve is turned On.

Similarly, when the valve is On and when you select this command, a confirmation message showing “The valve is turned Off” appears in the message box. When you respond with “Yes”, the valve is turned Off.

Operate valves 1-1 to 1-6, 2-1 to 2-6, and 3-1 to 3-6 in the similar way. Note that valves not assigned to the system are grayed out and you cannot operate them.

You can also operate the valves by selecting the desired one from the valve status display of Analyzer Operation window.

4.3.11 Operating Atmospheric-Pressure Balancing Valve

Operate Atmospheric-Pressure Balancing Valves in the following procedure. You operate Atmospheric-Pressure Balancing Valve 1-1 in this example.

Ensure the GCM is in Manual status. From the Manual/Range menu, select “Atm” and “Atm1-1” commands. Now, you can turn Atmospheric-Pressure Balancing Valve 1-1 on or off. The operations are the same as for Subsection 4.3.10 “Operating Valves.”

Note that the Atmospheric-Pressure Balancing Valves not assigned to the GCM are grayed out and you cannot operate them.

You can also operate the valves by selecting the Atmospheric-Pressure Balancing Valve display of Analyzer Operation window.

4.3.12 Operating Detectors

Operate detectors in the following procedure. You operate Detector 1-1 in this example.

Ensure the GCM is in Manual status. From the Manual/Range menu, select “Oven1”, “DET” and “DET1-1” commands in this order. Now, you can turn Detector 1-1 on or off. The operations are the same as for Subsection 4.3.10 “Operating Valves.”

Note that the detectors not assigned to the system are grayed out and you cannot operate them.

You can also operate the detectors by clicking the ON/OFF display of detector status in the display section of the Analyzer Operation window.

4.3.13 Operating Hydrogen Limiting Unit

Operate the Hydrogen Limiting Unit in the following procedure. You operate Hydrogen Limiting Unit 1 in this example.

Ensure the GCM is in Manual status. From the Manual/Range menu, select “Oven1”, “HL” and “HL1” commands in this order. Now, you can turn Hydrogen Limiting Unit 1 (HL1) on or off. The operations are the same as for Subsection 4.3.10 “Operating Valves.”

Note that the Hydrogen Limiting Units not assigned to the system are grayed out and you cannot operate them. You can also operate the units by clicking the ON/OFF display of HL status in the data display section of the Analyzer Operation window.

4.3.14 Operating Temperature Controllers

To operate a temperature controller, first check the GCM is in the Manual status. From the Manual/Range menu, select the “Oven1” and “Heater1” commands. The Operate Temperature Controller dialog box for Oven 1 appears.

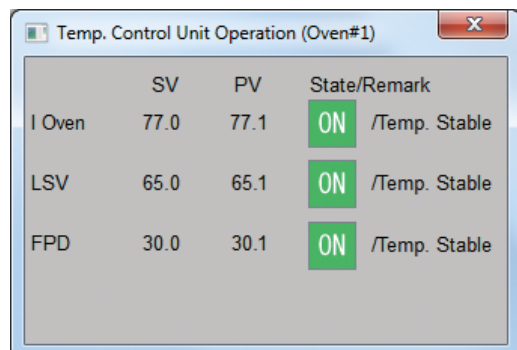


Figure 4.21 Operate Temperature Controller dialog box

The Operate Temperature Controller dialog box shows the SV value, PV value, On/Off status and temperature control status of Isothermal oven, LSV and FPD. The PV value, On/Off status, and temperature control status are refreshed in every second.

To turn the temperature controller Off, just click the ON display. When a confirmation message showing “The temperature controller is turned Off” appears in the message box, respond with “Yes” and the temperature controller turns Off.

Similarly, when you turn the temperature controller On, click the OFF display. As a confirmation message showing “The temperature controller is turned On” appears in the message box, respond with “Yes” and the temperature controller turns On.

You can also call the Operate Temperature Controller dialog box by clicking the temperature display of the oven.

The dialog box shows the temperature controller status as follows.

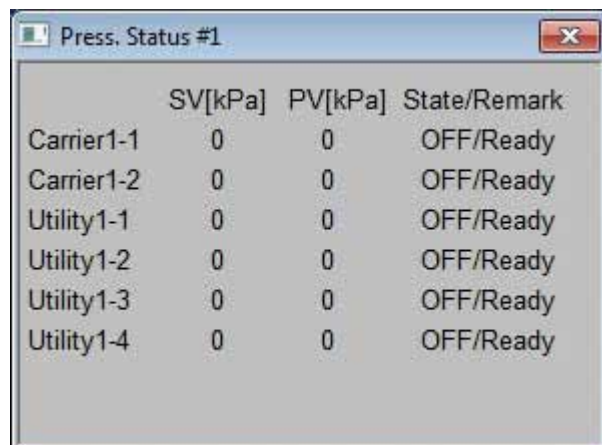
Isothermal oven: Under preparation, Constant temperature control

Programmed-temperature oven: Under preparation, Constant temperature control, Programmed temperature control, Cool down

4.3.15 Pressure Display

Display the pressure of each EPC (Electric Pressure Controller) in the following procedure. You display the pressure of Oven 1 in this example.

From the Manual/Range menu, select “Oven1” and “Press1” commands. The Pressure Display dialog box for Oven 1 appears.



	SV[kPa]	PV[kPa]	State/Remark
Carrier1-1	0	0	OFF/Ready
Carrier1-2	0	0	OFF/Ready
Utility1-1	0	0	OFF/Ready
Utility1-2	0	0	OFF/Ready
Utility1-3	0	0	OFF/Ready
Utility1-4	0	0	OFF/Ready

Figure 4.22 Pressure Display dialog box

The Pressure Display dialog box shows the SV value, PV value, On/Off status and pressure status of Carriers n-1 and n-2 and Utilities n-1 to n-4.

The display is refreshed in every second. The pressure status is Under preparation, Constant pressure, or Pressure increasing.

You can also call the Pressure Display dialog box by clicking the pressure display of the oven.

You cannot start an operation from this dialog box. Also, carriers may not be used except for Carrier n-1. In such case, the corresponding items are left blank.



CAUTION

This pressure display is valid only when the EPC (Electric Pressure Controller) is used.

4.3.16 Detector Signal Display

To display detector signals, right-click the detector. The Detector Signal dialog box appears.

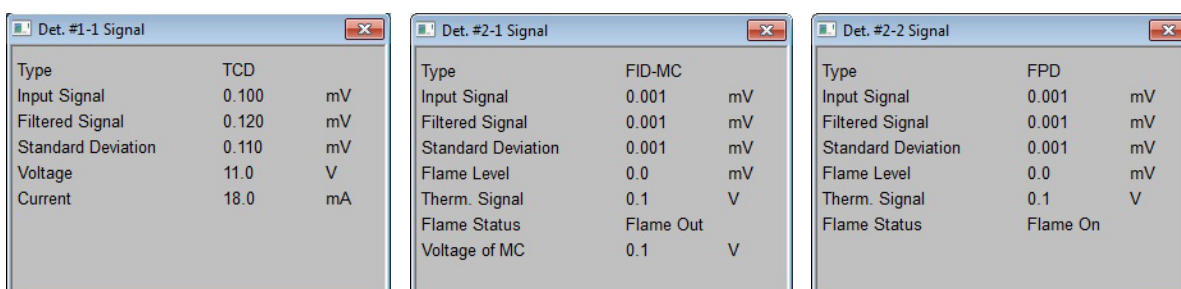


Figure 4.23 Detector Signal dialog box (The TCD at left, FID-MC at center, and FPD (similar to FID) at right)

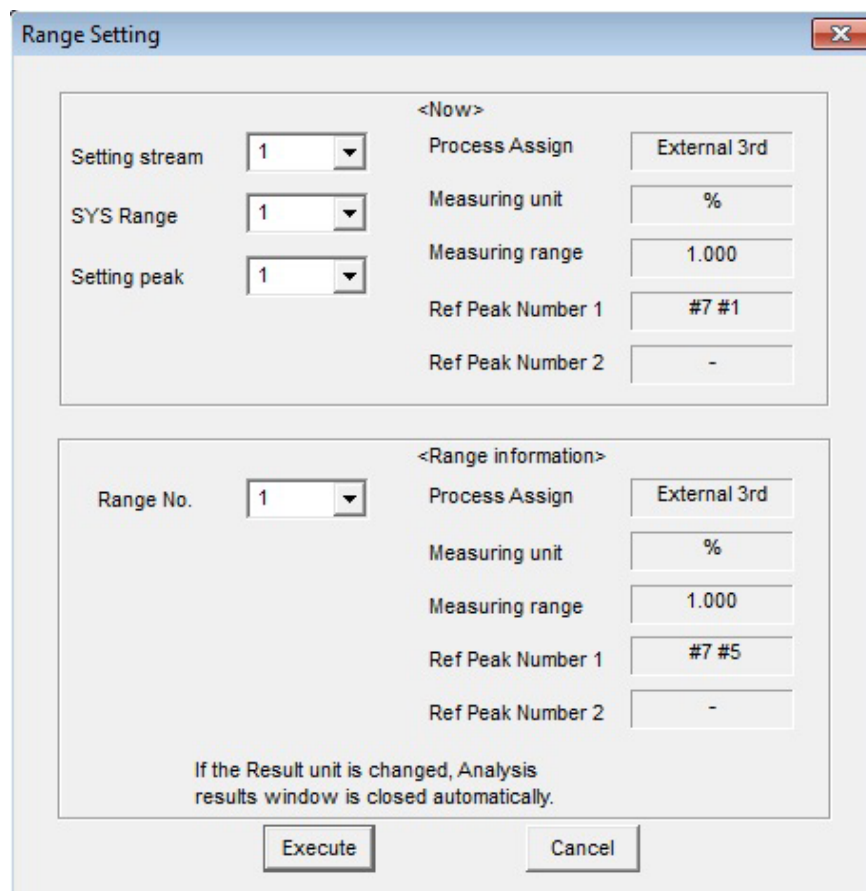
The display is refreshed in every second. The following items are displayed.

Table Detector signal display item

Item	Description
Type	Indicates the detector type. It is either "TCD", "FID", "FID-MC" (FID having methane converter), "FPD", or "None".
Input Signal	The input signal is sampled every 20 msec, and this analog signal is converted into digital form, averaged at the sampling rate, and displayed.
Filtered Signal	The input signal is filtered using the filter constant of detector signal settings and displayed.
Standard Deviation	Indicates the standard deviation of the past 20 input signals.
Voltage	Indicates the TCD bridge voltage. (TCD only)
Current	Indicates the TCD bridge current. (TCD only)
Flame Level	Indicates the preset Flame Detection Level. (FID, FID-MC, FPD)
Therm. Signal	Displays the thermocouple signals. (FID, FID-MC, FPD)
Flame Status	Indicates the Flame Detection status (Flame On or Flame Out). (FID, FID-MC, FPD)
Voltage of MC	Indicates the converter voltage. (FID-MC only)

4.3.17 Changing Range

To change the Range, select the Change Range command from the Manual/Range menu. The Range Change dialog box appears.



The dialog box is titled "Range Setting" and contains two main sections: "<Now>" and "<Range information>".

<Now> section:

- Setting stream: 1 (dropdown)
- SYS Range: 1 (dropdown)
- Setting peak: 1 (dropdown)
- Process Assign: External 3rd
- Measuring unit: %
- Measuring range: 1.000
- Ref Peak Number 1: #7 #1
- Ref Peak Number 2: -

<Range information> section:

- Range No.: 1 (dropdown)
- Process Assign: External 3rd
- Measuring unit: %
- Measuring range: 1.000
- Ref Peak Number 1: #7 #5
- Ref Peak Number 2: -

At the bottom of the "<Range information>" section, there is a note: "If the Result unit is changed, Analysis results window is closed automatically."

At the bottom of the dialog box are two buttons: "Execute" and "Cancel".

Figure 4.24 Range Change dialog box

From this dialog box, you can change the Stream/Peak measuring range to the specified range number. After selecting the stream of the range, peak of the range, and the range number, click the Execute button. A confirmation message asking "Are you sure you want to send the data?" appears. If you respond with "Yes", the current range is changed to the specified range number.

You can select stream numbers and system numbers of the current GCM only.

Also, you can select only the peak number assigned to the detector of the selected system number.

The range number can be any of 1 to 31.

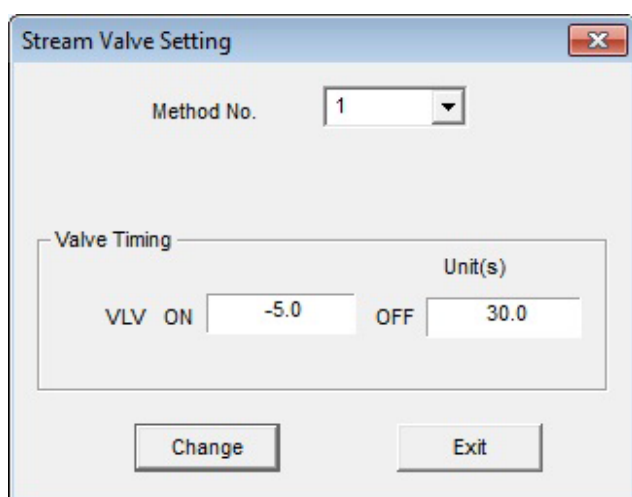
The following items are displayed.

Table Display of Range Change dialog box for each process setting (details)

Process setting (Details)	Result unit	Measuring range	Reference peak No. 1	Reference peak No. 2	Remarks
External third	Displayed	Displayed	Displayed Negative (-) sign is shown if the reference stream and peak are "0, 0".	Negative (-) sign is shown.	For Calibration Stream, the reference stream and peak are "0, 0".
External linear	Displayed	Displayed	Displayed	Displayed	For Calibration Stream, the reference stream and peak (for both 1 and 2) are "0, 0".
Indirect method Deviation calculation Linear 1 to 5	Displayed	Displayed	Negative (-) sign is shown.	Negative (-) sign is shown.	
AI1 to 16	Negative (-) sign is shown.	Displayed	0% value	100% value	
Others (such as ratio)	Negative (-) sign is shown.	Displayed	Negative (-) sign is shown.	Negative (-) sign is shown.	

4.3.18 Stream Valve ON/OFF Setting

To set a turn-On/Off time of stream valves, select the Stream Valve command from the Setup menu. The Stream Valve ON/OFF Setting dialog box appears.

**Figure 4.25** Stream Valve ON/OFF Setting dialog box

If no stream valve is used for the active GCM, the Stream Valve command is grayed out on the Setup menu and you cannot select it.

In this dialog box, you can change the ON and OFF time for each method number of stream valve of the active GCM. First, select a method number. A pair of ON and OFF time of the stream valve of this method is displayed. Change the ON and OFF times and click the Change button. A confirmation message asking "Are you sure you want to send the data?" is displayed in the message box. When you respond with "Yes", the settings are changed.

Each item can be selected in the following range.

Method number: 1 to 6

Valve ON time: "- Preparation time to System analysis cycle - 2 sec"

Valve OFF time: "ON time to System analysis cycle - 2 sec"

However, if it is set to "*****", both ON and OFF times are made invalid.

4.3.19 Valve ON/OFF Setting

To set the On/Off time of valves, select the Valve command from the Setup menu. The Valve ON/OFF Setting dialog box appears.

The dialog box titled "Valve onoff" contains the following fields and controls:

- SYS:** A dropdown menu with the value "1" selected.
- Method No.:** A dropdown menu with the value "1" selected.
- Valve No.:** A dropdown menu with the value "1-1" selected.
- Valve Timing:** A section containing a table of ON and OFF times.

		Unit(s)	
VLV	ON	0.0	OFF 5.0
VLV	ON	*****	OFF *****
VLV	ON	*****	OFF *****
- Buttons:** "Change" and "Exit" buttons at the bottom.

Figure 4.26 Valve ON/OFF Setting dialog box

In this dialog box, you can change the ON and OFF time for each method number of the valve of the specified system number.

First, select a system number, method number, and valve number. Three pairs of ON and OFF times of the valve are displayed. Change the ON and OFF times and click the Change button. A confirmation message asking "Are you sure you want to send the data?" is displayed in the message box. When you respond with "Yes", the settings are changed.

Each item can be selected in the following range.

System number: A number belonging to the current GCM

Method number: 1 to 6

Valve number: The number selected as the system number and assigned

Valve ON time: "0 to System analysis cycle - 2 sec"

Valve OFF time: "ON time to System analysis cycle - 2 sec"

However, if it is set to "*****", both ON and OFF times are made invalid.

4.3.20 Atmospheric-Pressure Balancing Valve ON/OFF Setting

To set the On/Off time of atmospheric-pressure balancing valves, select the Atmospheric-Pressure Balancing Valve command from the Setup menu. The Atmospheric-Pressure Balancing Valve ON/OFF Setting dialog box appears.

		Unit(s)	
VLV	ON	0.0	OFF 5.0
VLV	ON	*****	OFF *****
VLV	ON	*****	OFF *****

Figure 4.27 Atmospheric-Pressure Balancing Valve Setting dialog box

If atmospheric-pressure balancing valve is not used for the active GCM, the Atmospheric-Pressure Balancing Valve command is grayed out on the Setup menu and you cannot select it.

In this dialog box, you can change the ON and OFF time for each method number of the atmospheric-pressure balancing valve of the specified system number.

First, select a system number, method number, and valve number. Three pairs of ON and OFF times of the valve are displayed. Change the ON and OFF times and click the Change button. A confirmation message asking “Are you sure you want to send the data?” is displayed in the message box. When you respond with “Yes”, the settings are changed.

Each item can be selected in the following range.

System number: A number belonging to the current GCM

Method number: 1 to 6

ATM number: The atmospheric-pressure balancing valve number of the GCM is displayed. This cannot be selected.

Valve ON time: “- Preparation time to System analysis cycle - 2 sec”

Valve OFF time: “ON time to System analysis cycle - 2 sec”

However, if it is set to “*****”, both ON and OFF times are made invalid.

4.3.21 Peak Setup Dialog Box

To set peaks, select the Peak submenu from the Setup menu. The Set Peak dialog box appears.

Figure 4.28 Set Peak dialog box

In this dialog box, you can set a stream number, system number, and peak number options.

After you have changed the settings, click the Change button. A confirmation message asking “Are you sure to change the settings?” is displayed in the message box. When you respond with “Yes”, the settings are changed.

You can select stream numbers and system numbers of the current GCM only.

Also, you can select only the peak number assigned to the detector of the selected system number.

● Peak Info.

You can set the specified stream number, system number, and peak name of the peak number.

The peak name can be up to eight characters, consisting of alphanumeric characters and symbols *, (,), +, #, \$, :, <, >, %, and /.

After you have changed the settings, click the Change button. A confirmation message asking “Are you sure you want to send the data?” is displayed in the message box. When you respond with “Yes”, the settings are changed.

● Gate Time

You can set the peak reference time, gate ON time, and gate OFF time for the specified stream number, system number, and peak number.

After you have changed the settings, click the Change button. A confirmation message asking “Are you sure you want to send the data?” is displayed in the message box. When you respond with “Yes”, the settings are changed.

Note that you can edit the peak reference time only when the following two conditions are satisfied. Otherwise, the time is shown as “*****” and you cannot edit it.

- 1) If the Auto Tracking is set to "Track Standard"
- 2) If the Distillation Analysis is set to "No"

If the Process Setting is set to "Calculation" or "Caloric processing", all of Peak Reference Time, Gate ON Time, and Gate OFF time are grayed out and you cannot change them.

- **Result Unit/Measuring Range**

You can set the measuring unit and range for the specified stream number, system number, and peak number.

After you have changed the settings, click the Change button. A confirmation message asking "Are you sure you want to send the data?" is displayed in the message box. When you respond with "Yes", the settings are changed.

- **Ref Stream/Ref Peak**

You can set a reference stream number and a reference peak number (for the specified stream number, system number, and peak number).

After you have changed the settings, click the Change button. A confirmation message asking "Are you sure you want to send the data?" is displayed in the message box. When you respond with "Yes", the settings are changed.

- **Gate Cut Method/Integ Method**

You can set a Gate Cut Method and an Integration Method for the specified stream number, system number, and peak number.

After you have changed the settings, click the Change button. A confirmation message asking "Are you sure you want to send the data?" is displayed in the message box. When you respond with "Yes", the settings are changed.

- **Calib. Settings**

You can set the Standard Concentration, Standard Area, and Calibration Coefficient for the specified stream number, system number, and peak number. Note that the information about a stream not being set as the Calibration Stream is grayed out and you cannot change it.

After you have changed the settings, click the Change button. A confirmation message asking "Are you sure you want to send the data?" is displayed in the message box. When you respond with "Yes", the settings are changed.

4.3.22 Gate Tracking

To set the gate tracking, select the Gate Tracking command from the Setup menu. The Set Gate Tracking dialog box appears.

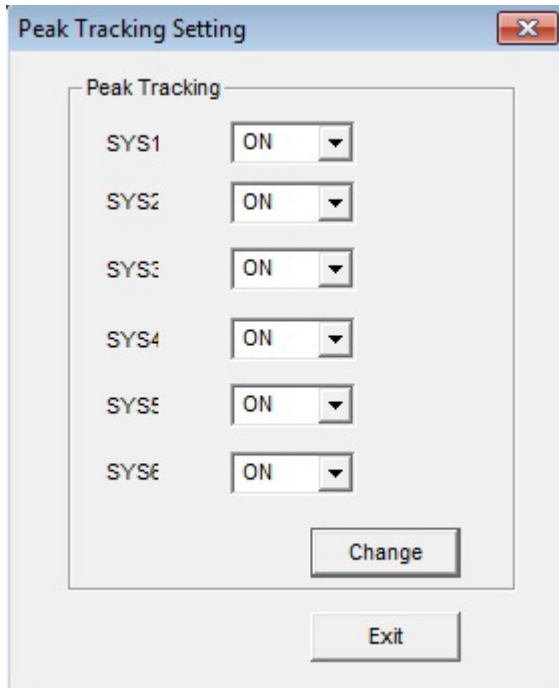


Figure 4.29 Set Gate Tracking dialog box

In this dialog box, you can enable or disable the Gate Tracking of the system assigned to the active GCM. The window displays the gate tracking setup of all systems being assigned to the active GCM.

After you have changed the settings, click the Change button. A confirmation message asking “Are you sure you want to send the data?” is displayed in the message box. When you respond with “Yes”, the settings are changed.

4.3.23 Stream Sequence

To set a stream sequence, select the Stream Sequence command from the Setup menu. The Set Stream Sequence dialog box appears.

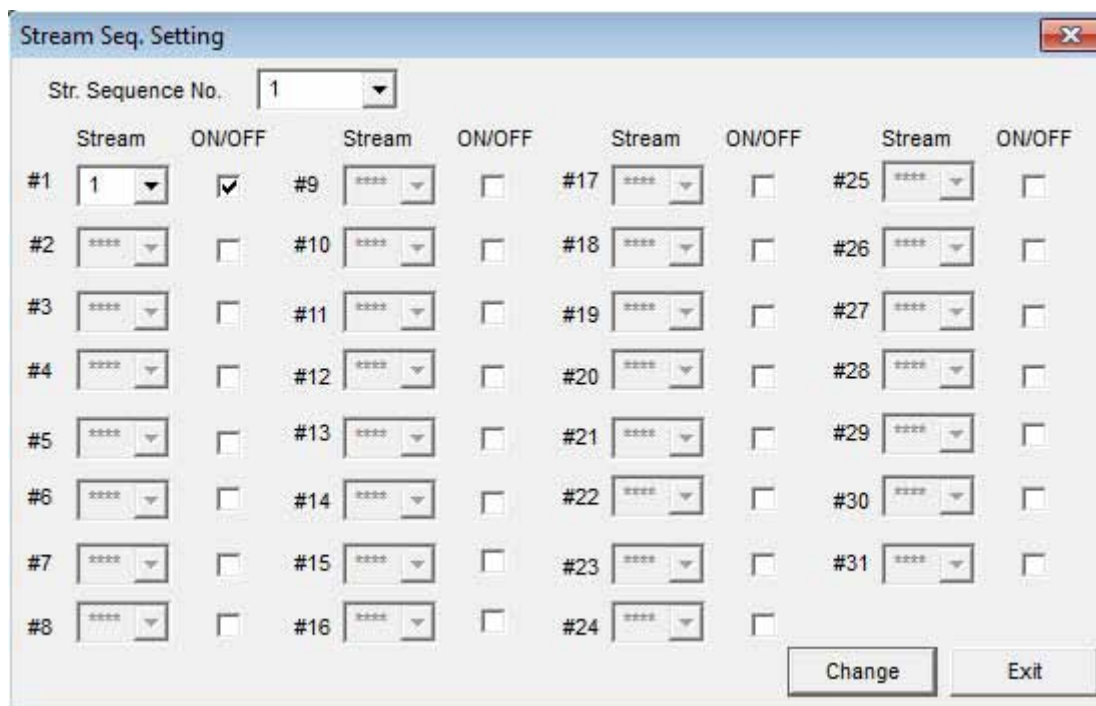


Figure 4.30 Set Stream Sequence dialog box

In this dialog box, you can assign streams of active GCM stream sequence, and enable or disable the sequence as follows.

- (1) Select a stream sequence number (1 to 8) to set the stream sequence. The corresponding stream sequence settings are displayed.
- (2) Enable or disable the sequence. (Select the box to enable, and deselect the box to disable.) If you deselect a box, the stream number is indicated as "****" automatically and the stream number is no longer selectable.
- (3) From the stream number combo box, you can select up to 31 stream numbers that are being assigned to the GCM.
- (4) After you have changed the settings, click the Change button. A confirmation message asking "Are you sure you want to send the data?" is displayed in the message box. When you respond with "Yes", the settings are changed.

4.4 Chromatogram Window

The Chromatogram window displays chromatograms of GCM currently connected and chromatograms stored in PCAS. It also re-integrates chromatograms.

One "online startup" Chromatogram window can be displayed and up to four "off-line startup" Chromatogram windows can be displayed.

"Online startup"

A startup procedure in which communication with the analyzer or PCAS is possible. Chromatograms can be acquired from the analyzer or PCAS, and re-integration results can be transferred.

"Off-line startup"

A startup procedure in which communication with the analyzer or PCAS is not established. Activate with clicking the icon "Chromatogram" on ASET. Only file chromatograms can be displayed.

4.4.1 Overview of Chromatogram Window

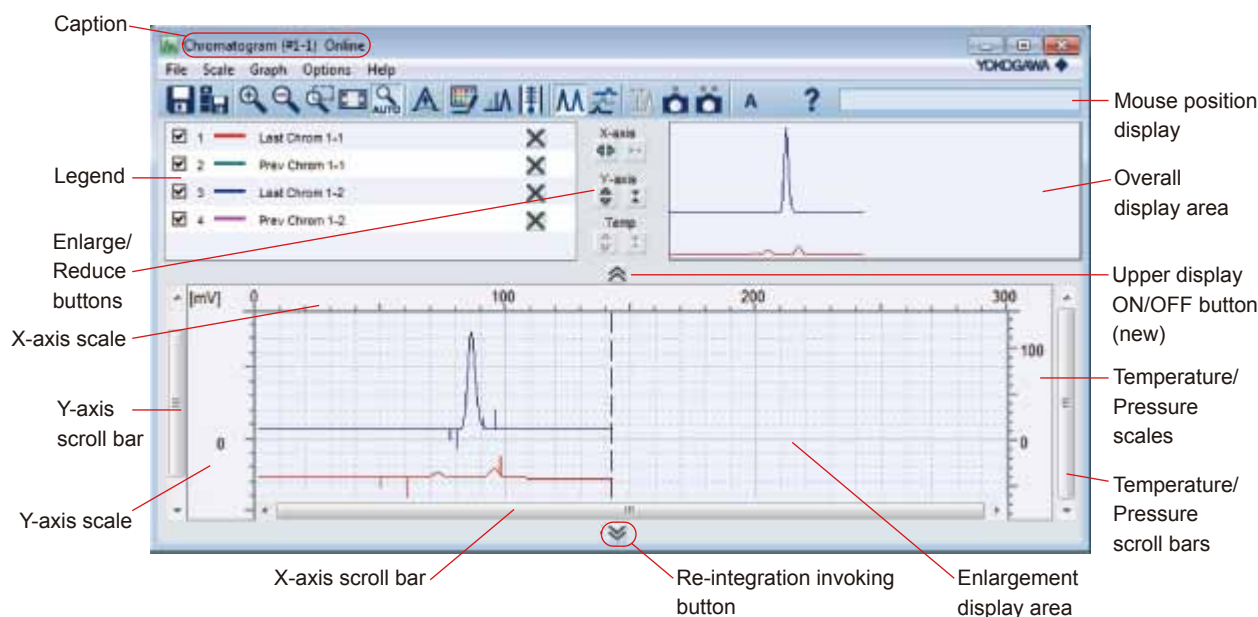


Figure 4.31 Chromatogram window

The following explains the elements of the Chromatogram window.

- 1) Caption
Displays “#Analyzer ID-GCM number (window startup status)” after a window name.
As the window startup status, “Online” or “Off-line” is displayed.
- 2) Legend
Displays the correspondence between pen colors and the chromatogram names currently displayed. A chromatogram can be shown or hidden, or deleted, and the active chromatogram can be selected in this area.
- 3) Enlarge/Reduce button
Use this button to enlarge or reduce X-axis scale, Y-axis scale, temperature axis, or pressure axis.
- 4) Overall display area
An area displays the whole chromatogram. The portion displayed in the enlarged display area is indicated in cyan.
- 5) Mouse position indication
When the mouse cursor is in the overall display area or enlargement display area, the coordinates that the current mouse cursor indicates is displayed by “elapsed time (sec.) and detector electromotive force (mV)”.
- 6) Enlargement display area
An area where a chromatogram is displayed. The selected portion of a chromatogram can be enlarged. On a chromatogram, the gate mark, peak mark, and peak number can be displayed.
It can also display the peak information, gate information, temperature data, and pressure data corresponding to the chromatogram.
- 7) X-axis scale
Indicates the elapsed time (in sec.) of chromatogram.
- 8) X-axis scroll bar
Scrolls chromatogram in the X-axis direction.
- 9) Y-axis scale
Indicates the electromotive force (in mV) of chromatogram.

- 10) Y-axis scroll bar
Scrolls the Enlargement Display window in the Y-axis direction.
- 11) Temperature/Pressure scale
Indicates temperature data or pressure data. Temperature scale (in deg C) and pressure scale (in kPa) can be switched (cannot be displayed at the same time). The scales can be switched by double-clicking on the scale.
- 12) Temperature/Pressure scale scroll bar
Scrolls temperature data or pressure data displayed in the Enlargement Display window.
- 13) Upper section display ON/OFF button
Use this button to display or hide legend, the enlarge/reduce button, and the overall display area.
- 14) Re-integration invoking button
Use this button to invoke the chromatogram re-integration function.

4.4.2 Toolbar

The toolbar consists of the following buttons.

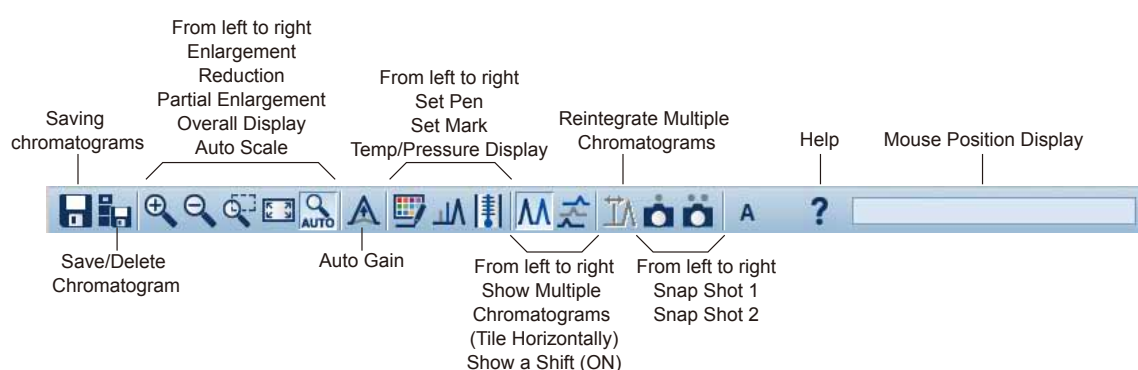


Figure 4.32 Toolbar of Chromatogram window

4.4.3 Chromatogram Types

The following types of chromatograms are provided.

- 1) Latest chromatogram
This is the chromatogram currently being measured. One latest chromatogram is provided for each detector (latest chromatogram 1-1 to 3-2), and the update cycle is 1 second.
- 2) Previous chromatogram
This is the chromatogram measured the last. One previous chromatogram is provided for each detector (previous chromatogram 1-1 to 3-2).
- 3) Saved chromatogram
This chromatogram is saved by the user to the GC8000 main body. A maximum of 20 chromatograms per system can be saved as "saved chromatogram". If the analysis cycle is 30 minutes or more, the number of chromatograms that can be saved decreases.
- 4) Baseline chromatogram
This chromatogram is saved by the user to the GC8000 main body as "baseline chromatogram". One chromatogram per system can be saved as "baseline chromatogram".
- 5) History chromatogram
This chromatogram is automatically saved to the GC8000 main body or PCAS. Saved to the GC8000 main body is the "history chromatogram" for the past one week for six detectors (for the past six weeks if there is only one detector). To PCAS, all the chromatograms in the past two months can be saved. This denotes that, if saved once per ten analyses, all the chromatograms in the past one year can be saved.

- 6) File chromatogram
This chromatogram is automatically saved on ASET or manually saved by the user.
- 7) Differential chromatogram
This chromatogram is the result of difference determined by comparing two chromatograms. The difference of shifted chromatograms are determined as they are in the shifted status. If chromatograms are shifted after their difference was displayed as a differential chromatogram, the differential chromatogram is not updated automatically. In that case, display the differential chromatogram again.

4.4.4 Active Chromatogram

The “active chromatogram” is the target for shifting, re-integrating, and other operation intended for chromatogram. In legend display, the current active chromatogram is highlighted in mazarine.

To select the active chromatogram, manually click a chromatogram displayed in the legend area.

A temperature graph or pressure graph can also be set as active. The active graph can be shifted. However, re-integration operation is not available while the graph is active.

4.4.5 Legend display

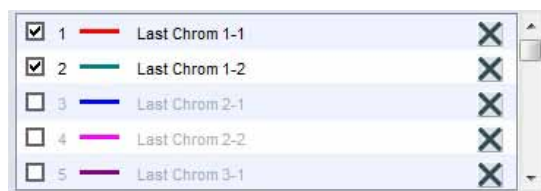


Figure 4.33 Example of legend display

This area displays the correspondence between the pen colors and the names of chromatograms, temperature graphs, and pressure graphs currently displayed.

By selecting or deselecting the check box of each graph name, corresponding graph can be displayed in the Enlargement Display window.

If a check box is cleared, the corresponding chromatogram name is highlighted in gray, and the chromatogram is hidden in the Enlargement Display window.

By clicking the DEL button of a graph, the corresponding graph can be deleted completely.

4.4.6 Auto Gain Mode of Chromatogram

- If auto gain mode is selected in the enlargement display area, the voltage value of chromatogram is enlarged based on the gain setting for each peak.
- If auto gain mode is enabled, the Y-axis scale is displayed according to the gain setting. If auto gain mode is disabled, the Y-axis scale is displayed in mV.
- For auto gain mode, the gain setting for each peak must be configured. Therefore, a chromatogram without gain setting capability does not support auto gain mode.
- An unevenness may occur on the portion of chromatogram where the gain level changes.
- In auto gain mode, the Y-axis scale is displayed according to the gain in the most left portion where chromatogram is displayed. Also in an enlargement, the gained chromatogram is displayed.

For auto gain mode, select the auto gain mode in the scale menu.

The following shows an example of display in auto gain mode.

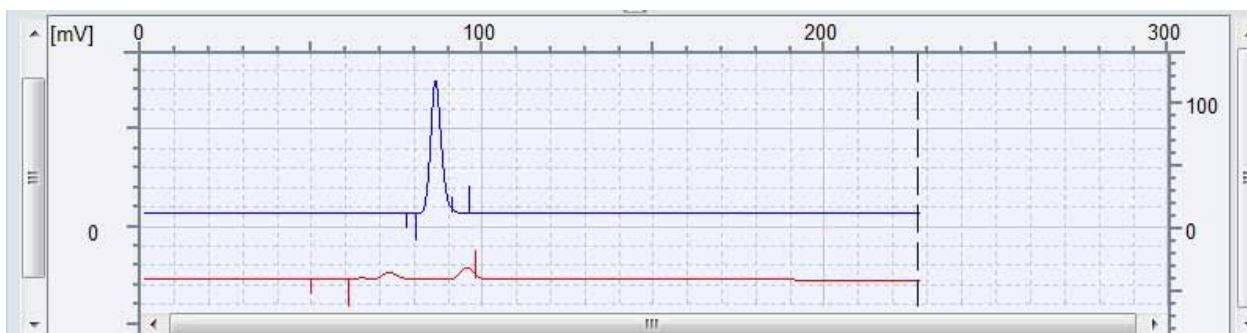


Figure 4.34 Example of display in auto gain

4.4.7 Gate Mark, Peak Mark, and Start Mark

In mark settings, if you select gate mark, peak mark, and start mark to be displayed, they are displayed in chromatogram in the enlargement display area.

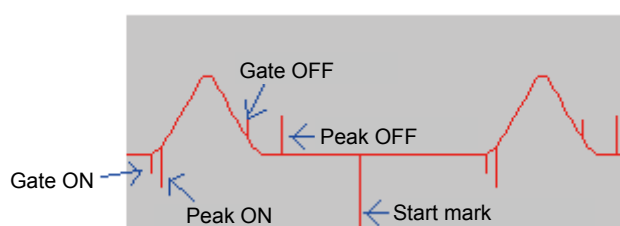


Figure 4.35 Example of displaying gate mark, peak mark, and start mark

4.4.8 Additional Information (Peak No., Peak Name, etc.)

Among the following data items, up to two items can be displayed in the Enlargement Display window.

- Relative peak number, - Peak name (up to 8 characters), - Gain (multiplying factor is displayed in "G:n" where n = 0 to 15), - Range (displayed in "Rng: XX.XX unit"), - Standard concentration (displayed in "S.Cnc:XX.XX unit").

Click on the Set Mark command in the Graph menu to display the Set Mark dialog box. Select data from the additional information 1/additional information 2 lists. If you want to hide data, select "None". In case of off-line, peak number is only indicated.

The following shows examples of displaying additional information.

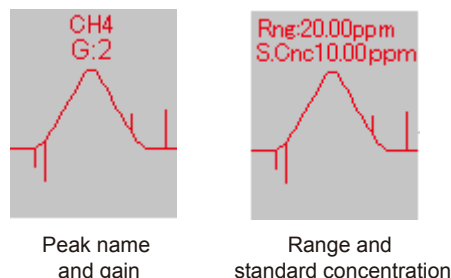


Figure 4.36 Examples of displaying gate mark and peak mark

4.4.9 Shifting Chromatogram

A selected chromatogram can be shifted in the desired X-axis or Y-axis direction by dragging.

The shift function can be enabled or disabled using the menu command or toolbar button. If it is disabled, the normal state is displayed. If it is enabled, the previous shift status is displayed.

If clearing shift information is selected from the menu command, the stored shift information is cleared.

4.4.10 Re-integration of Chromatogram

The re-integration function can re-integrate chromatograms stored in a file and recalculate the concentration values. It can also transfer the re-integration results to ASET and reflect them on subsequent measurements.



CAUTION

- This function is enabled for level C+ users.
- A peak can be re-integrated when “external third”, “external linear”, or “indirect method” processing is specified for the peak.

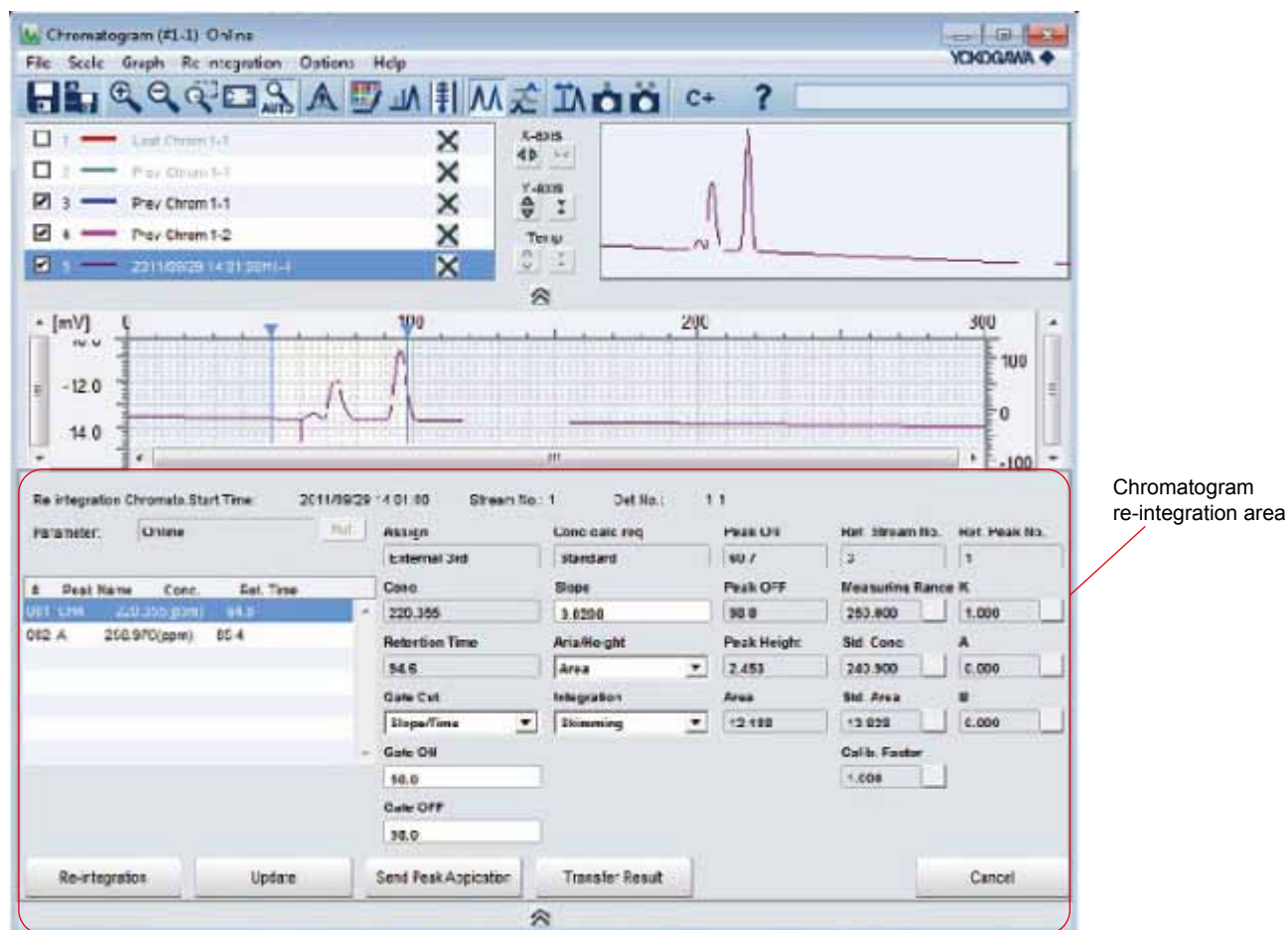


Figure 4.37 Chromatogram re-integration function (for external third)

● Chromatogram re-integration area

Analysis result list

Chromatogram information

Individual peak data area

Re-integration button

Figure 4.38 Chromatogram re-integration area (external third)

- 1) Chromatogram information
Displays the analysis start time, stream number, and detector number of chromatogram to be re-integrated.
The location of the parameter file can also be specified. If it is acquired from GC8000 while it is currently communicating, "Online" is displayed.
- 2) Analysis result list
Displays the list of analysis results corresponding to chromatogram to be re-integrated. Displayed in the list are relative peak number, peak name (unit), concentration, and retention time.
By clicking a peak in the list, you can select the peak to be re-integrated. The peak information currently selected is highlighted in cyan.
- 3) Individual peak data area
Displays the current analysis results of the selected peak. Information required for re-integration can be edited in this area.
Items to be displayed vary depending on the combination of the processing setting and the concentration calculation setting.
- 4) Re-integration buttons
Re-integration button: Use this button to perform re-integration.
Update button: Use this button to apply the re-integration results. (The results are not saved to a file)
Peak processing/transfer button: Use this button to transfer gate time and other data edited in re-integration to the initial GC8000 database.
Result transfer button: Use this button to save the re-integration results to the chromatogram file or analysis result file, and transfer them to PCAS or GC8000. However, the results cannot be transferred unless you click the update button previously.
Cancel button: Use this button to discard the re-integration results and restore the status before re-integration. If the update button was clicked previously, however, the status before re-integration cannot be restored.

● Re-integration procedure for chromatogram

Prerequisites:

- To re-integrate chromatogram, a chromatogram file and the corresponding analysis result file is required. (The latest chromatogram for which analysis is not completed cannot be re-integrated as well as differential chromatograms.)

Procedure:

- 1) Select a chromatogram you want to re-integrate and specify it as the active chromatogram.
- 2) Click the re-integration invoking button to display the chromatogram re-integration area. In the enlargement display area, the active chromatogram is only displayed then.
- 3) In the off-line mode, click Ref. button and select a parameter file to be used in re-integration (in the online mode, this step can be omitted).
- 4) In the analysis result list in the chromatogram re-integration area, click the data row of the peak to be re-integrated. Then, the data row of the selected peak is displayed in color, and the corresponding data is displayed in the individual peak information area.
- 5) Edit the data in the individual peak data area.
By dragging ▼ of X-axis scale, the gate ON time and gate OFF time can be changed graphically.
- 6) After editing the data, click the re-integration button. Then, the chromatogram is re-integrated according the edited data.
At this time, values after re-integration are displayed for concentration and the retention time in the analysis result list and concentration and the retention time in the individual data area.
If peak detection failed during re-integration, or a re-integration result does not fall within the range of the upper and lower limit, "???????" is displayed for the corresponding item.
- 7) If you want to cancel the re-integration results, click the cancel button. This returns the current peak data to the status before re-integration. If the update button was clicked previously, however, the status before re-integration cannot be restored.
- 8) Click the Update button. Then, the re-integration results are applied in the window, and concentration and the retention time in the individual data area are transferred into the analysis result list. The result transfer button will then be available.
- 9) Click the result transfer button. Then, the re-integration results are saved to the chromatogram file and analysis result file. Furthermore, these files are transferred to GC8000.
- 10) Click the peak processing and transfer button. Then, data units (Gate ON, gate OFF, detection slope, gate processing, detection level, area/height, integral processing, etc.) are transferred to the database in GC8000 to reflect the re-integration results on measurements.
- 11) Click the re-integration invoking button again to terminate the re-integration process. If the re-integration results have not been applied, a message appears asking the user to confirm whether they want to apply the results.



On clicking the re-integration button, consistency between parameters (the initial database in the online mode, or a parameter file in the off-line mode) and analysis results is checked. Target parameters are the assignment number of peaks on stream, peak name, unit, and relative peak number. If any of them is inconsistent, the message "Cannot perform re-integration because of inconsistent parameters" appears.

● Re-integration procedure for multiple chromatograms

- 1) Select a chromatogram to be used as a reference for re-integration, specify it as the active chromatogram, and click the re-integration invoking button. At this time, check the analysis results in the chromatogram re-integration area in advance and, if necessary, perform and complete the re-integration process and apply the results.
- 2) Select the Re-integrate Multiple Chromatogram command in the Re-integration menu. Then, the Re-integrate Multiple Chromatogram dialog appears.

- 3) Specify the stream number, analysis start time, and the number of re-integrating processes. Subsequently, clicking the “Execute” button performs re-integration of multiple chromatograms. At this time, re-integration is performed for the analysis results of the analysis count tracked back from the analysis start time.
- 4) When re-integration has been completed, the execution result (success or fail) of the individual chromatogram re-integration is displayed in the dialog box. Failed re-integration results are not updated.
- 5) To exit, click the “Close” button. Then, the Re-integrate Multiple Chromatogram dialog box closes.

Multiple chromatogram re-integration is determined to fail in the following cases:

- The number of peak assignments is different from that in the re-integration reference chromatogram.
- Peak detection failed.
- The concentration value after re-integration falls out of the range.



CAUTION

“Distillation = Yes” is set in the analyzer currently connected or loaded parameter file, re-integration cannot be performed.

4.4.11 Pen Setting

Select the Set Pen command in the Graph menu to display the Set Pen dialog box.

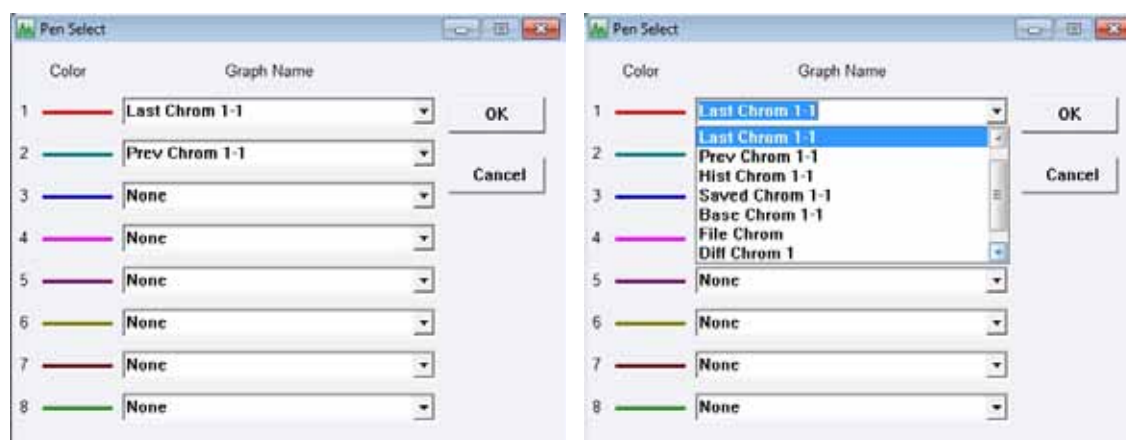


Figure 4.39 Set Pen dialog box (Example in the right shows a combo box is selected)

From this dialog box, different types of chromatograms to be displayed with pen 1 to 8 can be selected.

From a combo box for each pen color, select a chromatogram you want to display. Depending on the type of selected chromatogram, a different dialog box may be invoked.

The following shows the graph names that can be selected from the combo box.

Table Chromatograms selectable from the Set Pen dialog box

Graph name	Description of chromatogram to be displayed
None	Hides the chromatogram corresponding to the pen color.
Latest chromatogram 1-1 to 3-2.	Displays the latest chromatograms of the detector belonging to GCM currently connected. The detector number belonging to GCM is only registered in the combo box. It is not registered in off-line mode.
Previous chromatogram 1-1 to 3-2.	Displays the previous chromatograms of the detector belonging to GCM currently connected. The detector number belonging to GCM is only registered in the combo box. It is not registered in off-line mode.
Saved chromatogram 1-1 to 3-2.	Displays the saved chromatograms (a maximum of 20 per detector) of the detector belonging to GCM currently connected. The detector number belonging to GCM is only registered in the combo box. It is not registered in off-line mode. If the "Saved chromatogram" is selected from the combo box, a dialog box appears to enable the user to select the analysis start date and time of the saved chromatogram.
History chromatogram 1-1 to 3-2.	Displays the history chromatograms of the detector belonging to GCM currently connected. The detector number belonging to GCM is only registered in the combo box. It is not registered in off-line mode. If the "History chromatogram" is selected from the combo box, a dialog box appears to enable the user to select the analysis start date and time of the history chromatogram.
Baseline chromatogram 1-1 to 3-2.	Displays the baseline chromatograms (one per detector) of the detector belonging to GCM currently connected. The detector number belonging to GCM is only registered in the combo box. It is not registered in off-line mode. If the "Baseline chromatogram" is selected from the combo box, a dialog box appears to enable the user to select the analysis start date and time of the baseline chromatogram.
File chromatogram	Displays the file chromatograms stored in the PC in the specified pen color. File chromatograms of GCM currently not connected can also be displayed. If the "File chromatogram" is selected from the combo box, a file dialog box appears to enable the user to select a file chromatogram to be displayed. If the selected chromatogram file includes chromatograms of multiple detectors, a dialog box appears to enable the user to select a detector number.
Differential chromatogram 1 to 2	Select two currently displayed chromatograms to obtain the difference. Up to two differential chromatograms can be displayed. If the "Differential chromatogram" is selected from the combo box, a dialog box appears to enable the user to select two chromatograms for which the difference will be determined.

4.4.12 Selecting Saved Chromatogram

- 1) From the Set Pen dialog box, select “Saved chromatogram” (“n-m” indicate a detector number from which to obtain saved chromatograms).
- 2) A dialog box for selecting a saved chromatogram appears. In the dialog box, the list of the analysis start time and date of the saved chromatograms (up to 20) is displayed.

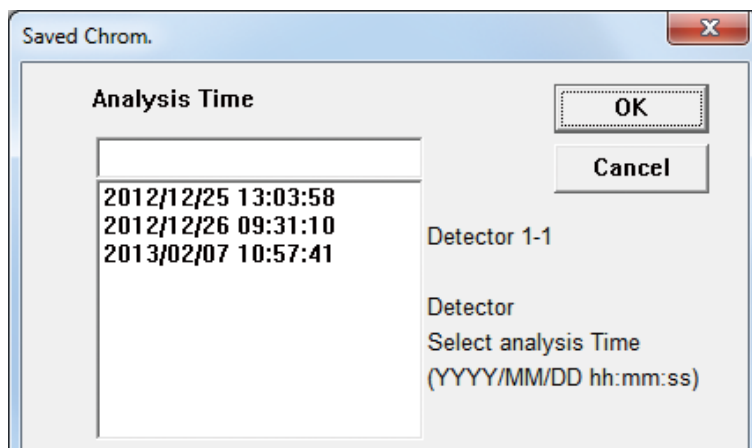


Figure 4.40 Saved chromatogram setting dialog box

- 3) Select the analysis start date and time, click the OK button.
The display format is “Analysis start date and time (YYYY/MM/DD hh:mm:ss) S detector number”.
For example, if the analysis start date and time is 2009/1/15 15:30:00, and the detector number is 2-1, “2009/01/15 15:30:00S2-1” is displayed.
- 4) Click the OK button then, the saved chromatogram is displayed..

4.4.13 Selecting History Chromatogram

- 1) From the Set Pen dialog box, select “History chromatogram n-m” (where “n-m” represents a detector number from which to obtain history chromatograms).
- 2) A dialog box for selecting year/month/day appears.
- 3) Select the year/month/day then, a dialog box for selecting the analysis start date and time appears.

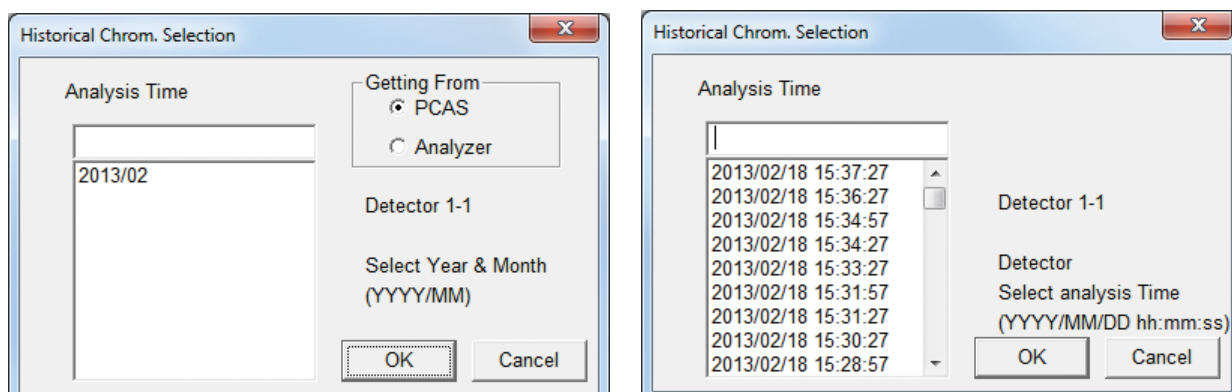


Figure 4.41 History chromatogram setting dialog box (Left: Selecting year/month/day, Right: Selecting analysis result date and time)

- 4) Select the analysis start date and time, click the OK button.
The display format is “Analysis start date and time (YYYY/MM/DD hh:mm:ss) H detector number”.
For example, if the analysis start date and time is 2008/09/16 12:00:00, and the detector number is 2-1, “2008/09/16 12:00:00H2-1” is displayed.
- 5) Click the OK button then, the history chromatogram is displayed.

4.4.14 Selecting Baseline Chromatogram

- 1) From the Set Pen dialog box, select “Baseline chromatogram” (where “n-m” indicate a detector number from which to obtain baseline chromatograms).
- 2) A dialog box for selecting baseline chromatogram appears.

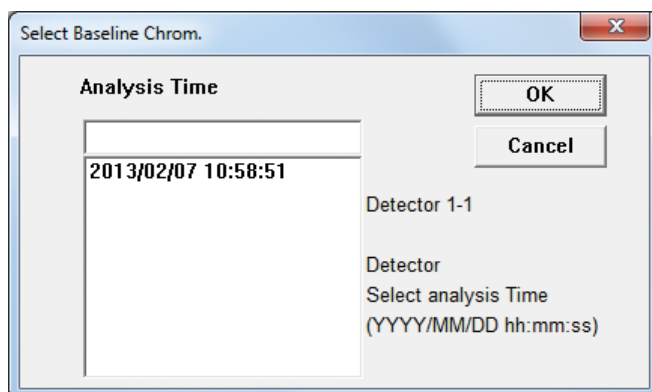


Figure 4.42 Baseline chromatogram setting dialog box

- 3) Select the analysis start date and time click the OK button.
The display format is “Analysis start date and time (YYYY/MM/DD hh:mm:ss) B detector number”.
For example, if the analysis start date and time is 2009/2/15 10:30:00 AM, and the detector number is 2-1, “2009/02/15 10:30:00B2-1” is displayed.
- 4) Click the OK button then, the baseline chromatogram is displayed.

4.4.15 Selecting File Chromatogram

- 1) From the Set Pen dialog box, select “File chromatogram”.
- 2) The “Open File” dialog box appears.

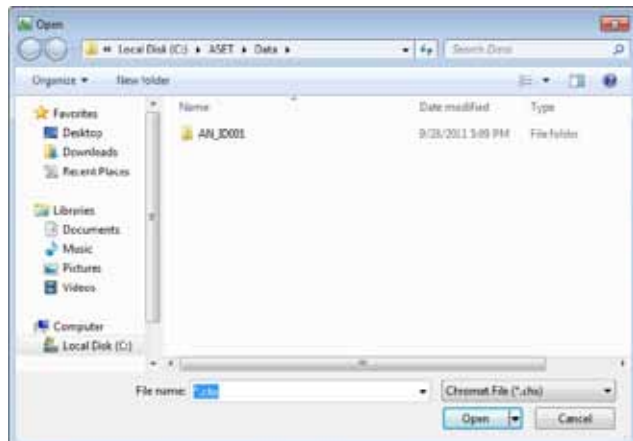


Figure 4.43 Open File dialog box

- 3) Select the file to be displayed click the OK button.
The display format is “File name F detector number”.
For example, if the file name is 20071218113220.chr, and the detector number is 2-1, “20071218113220.chrF2-1” is displayed.
- 4) Click the OK button then, the file chromatogram is displayed.

4.4.16 Selecting Differential Chromatogram

- 1) From the Set Pen dialog box, select “Differential chromatogram”.
- 2) The “Set Differential Chromatogram” dialog box appears.

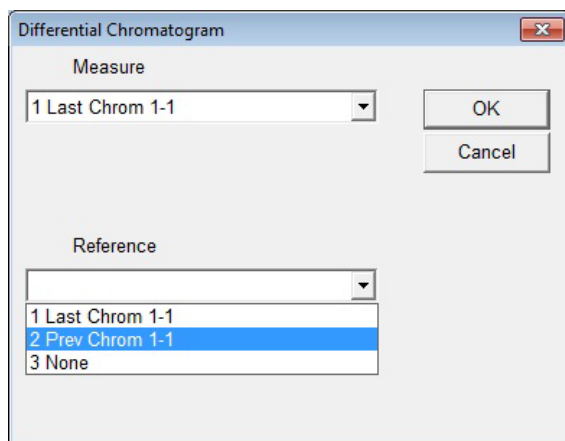


Figure 4.44 Set Differential Chromatogram dialog box

- 3) From the combo box, select graph names for which to determine difference. Chromatograms currently registered in pens 1 to 8 are displayed in the combo box (differential chromatograms are excluded).
Chromatograms shown in selective graph 1 are those to be used as reference, and chromatograms shown in selective graph 2 are to be used to compare differences with the reference.
- 4) Click the OK button.
- 5) The obtained differential chromatogram name is displayed in the appropriate combo box of the Set Pen dialog box. The display format is “n-m”, where “n” represents the pen number of chromatogram selected in selective graph 1, and “m” represents the pen number of chromatogram selected in selective graph 2.

4.4.17 Displaying Chromatogram File by Drag & Drop

- 1) When you have dragged and dropped a chromatogram file on to a chromatogram, the file chromatogram is displayed. The pen displayed at this time is the one that has the smallest pin number among unused ones. Temperature data and pressure data are not displayed automatically.
- 2) If chromatograms of multiple detectors are stored in a single file, unused pens are automatically assigned to the detectors in ascending order of detector number.
- 3) From the combo box in the Set Pen (file chromatogram) dialog box, you can select a graph name currently displayed and a chromatogram name for each detector stored in the dragged-and-dropped file. From this dialog box, select a chromatogram for overwriting.

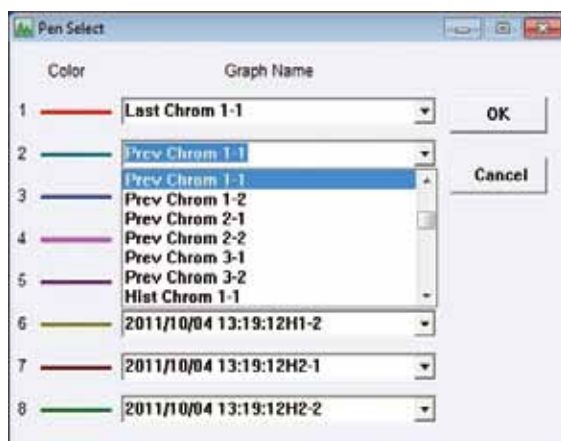


Figure 4.45 Set Pen dialog box (file chromatogram)

4.4.18 Set Mark Dialog Box

Select the Set Mark command in the Graph menu to display the Set Mark dialog box.

From this dialog box, you can turn display of gate marks, peak marks, and start marks on or off, set whether to display or hide additional information, and select the information.

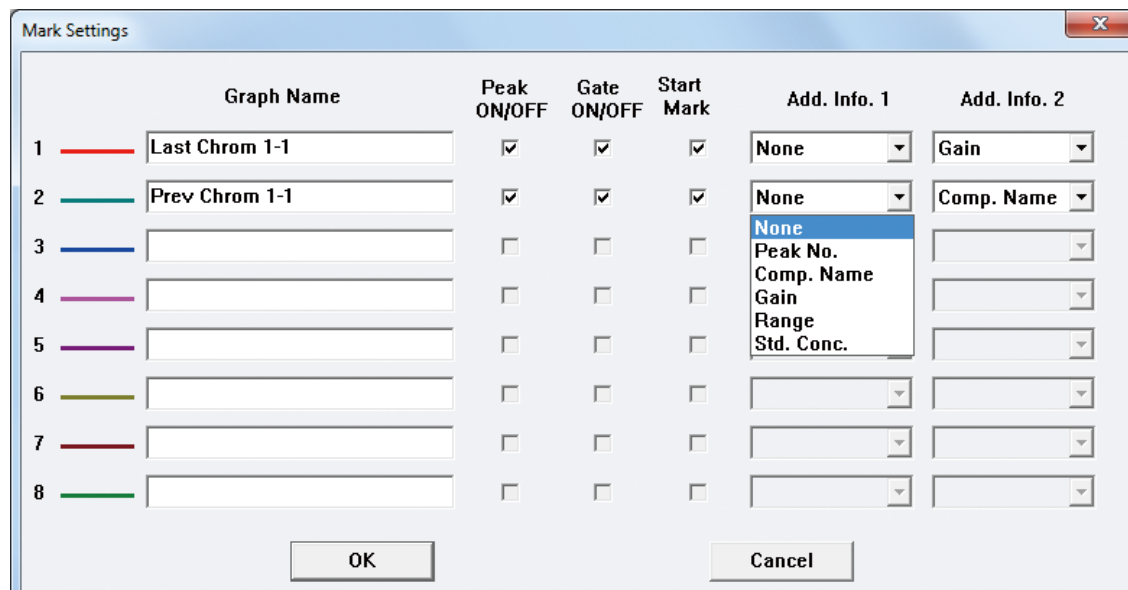


Figure 4.46 Set Mark dialog box

- If the “Peak ON/OFF” check box is selected, the peak ON/OFF information of the corresponding chromatogram is displayed.
- If the “Gate ON/OFF” check box is selected, the gate ON/OFF information of the corresponding chromatogram is displayed.
- With additional information 1 and 2, you can select two items to be displayed on the Chromatogram window for each peak. Select from peak number, component name, gain, range, and standard concentration. The display position is the highest point between the gate ON time and the gate OFF time.
- Additional information 2 is displayed on the top of additional information 1.
- If you have selected the same item in additional information 1 and 2, the same information is displayed twice.
- If the smart mark check box is selected, the smart mark appears, in tandem display mode, at the separator section in system analysis cycles. The smart mark check box is not displayed in single display mode.



CAUTION

- The peak ON/OFF information, gate ON/OFF information, and additional information are not provided for a differential chromatogram, and therefore the relevant check boxes and combo boxes are not displayed.
- When the GC1000 MarkII chromatogram file is displayed, combo boxes for additional information 1 and 2 are not displayed because it does not have additional information.
- In a file chromatogram not intended for tandem display, a saved chromatogram, a baseline chromatogram, and a differential chromatogram, the smart mark check box is not displayed.

4.4.19 Temperature/Pressure Dialog Box

Select the Temperature/Pressure command in the Graph menu to display the Temperature/Pressure dialog box.

From this dialog, temperature data and pressure data can be selected to be displayed with pens 1 to 8.

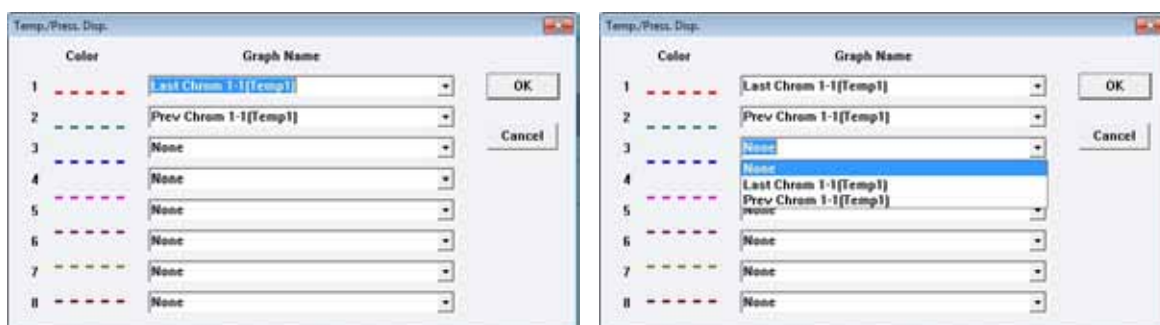


Figure 4.47 Temperature/Pressure dialog box (Example in the right shows a combo box is selected)

- 1) From a combo box for each pen color, select a temperature or pressure graph you want to display.
- 2) Click the OK button to display the selected temperature or pressure data by dotted line in the specified pen color in the enlargement display area. If you have selected "None", the pen is not displayed.
The update cycle of the temperature data and pressure data for the latest chromatogram is 1 second.

The following explains what (TempX), (PressX-1), and (PressX-2) represent in the combo box. (X = 1 to 3)

TempX: Temperature data for oven X

PressX-1: Pressure data 1 for oven X

PressX-2: Pressure data 2 for oven X

All oven temperatures and EPC pressures of the system belonging to the detector can be displayed. One chromatogram has a maximum of three units of temperature data (Temp1 to Temp3) and six units of pressure data (Press1-1 to Press3-2) as well as one unit of temperature data.

4.4.20 Save Chromatogram Dialog Box

Select the Save Chromatogram command in the File menu to display the Save Chromatogram dialog box.

From this dialog box, you can select a chromatogram currently displayed, and save it as a file on the PC.

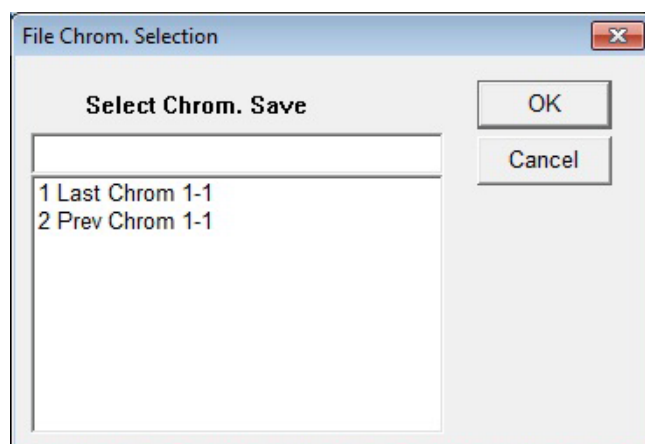


Figure 4.48 Save Chromatogram dialog box

- 1) From the dialog box, select one chromatogram to be saved and click the OK button.
- 2) The "Save As" dialog box appears. Specify a file name and click the save button to save the chromatogram to a file. Then, the specified chromatogram and corresponding temperature data, pressure data 1, pressure data 2, peak number, and analysis results are saved to the file.



Figure 4.49 Save As dialog box

4.4.21 Saving and Deleting Chromatogram

Select the Save Saved Chromatogram command in the File menu to display the Save Chromatogram dialog box. The dialog box consists of three tabs, "Save", "Delete", and "Baseline".



CAUTION

"Save" is enabled for user level A or higher, and "Delete" and "Baseline" are enabled for user level C or higher.

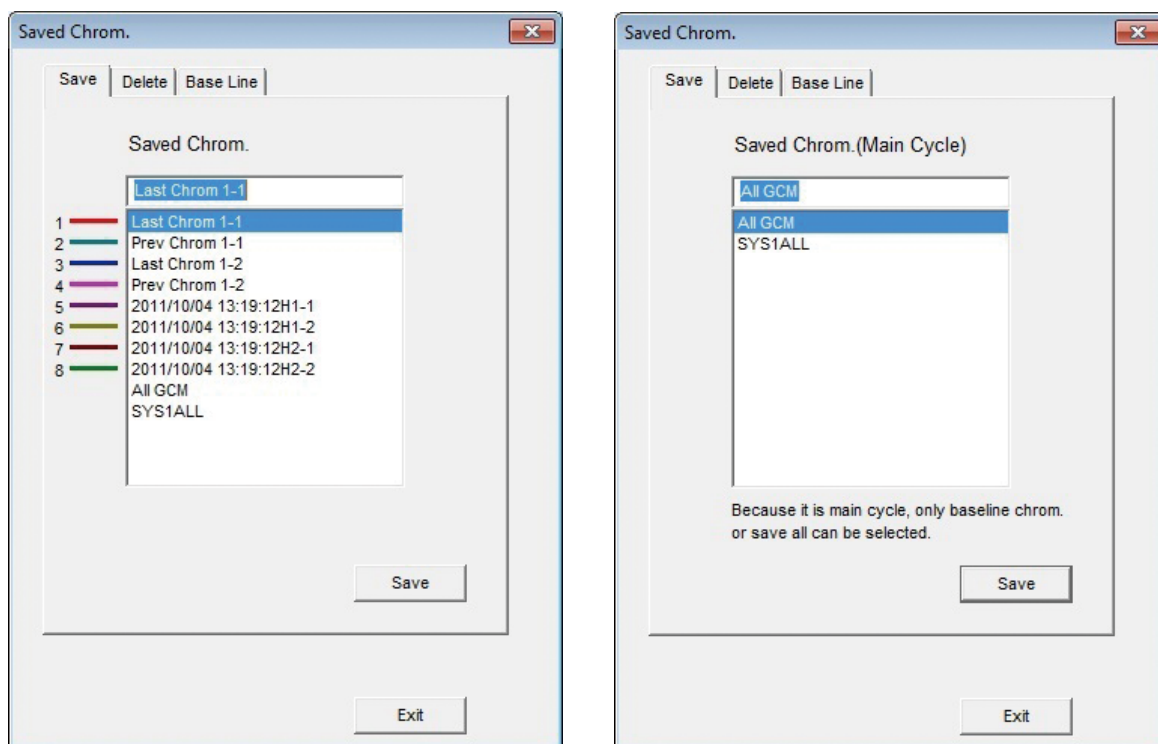


Figure 4.50 Save Saved Chromatogram dialog box (left) Save dialog box in tandem display mode (right)

● Saving a saved chromatogram

- 1) In the Save Saved Chromatogram dialog box, select a chromatogram to be saved as a saved chromatogram from currently displayed chromatograms in the Chromatogram window.
- 2) Click the "Save" button. This causes the "Do you want to save?" confirmation message to appear.
- 3) Clicking "OK" saves the chromatogram into GC8000.

● Deleting a saved chromatogram

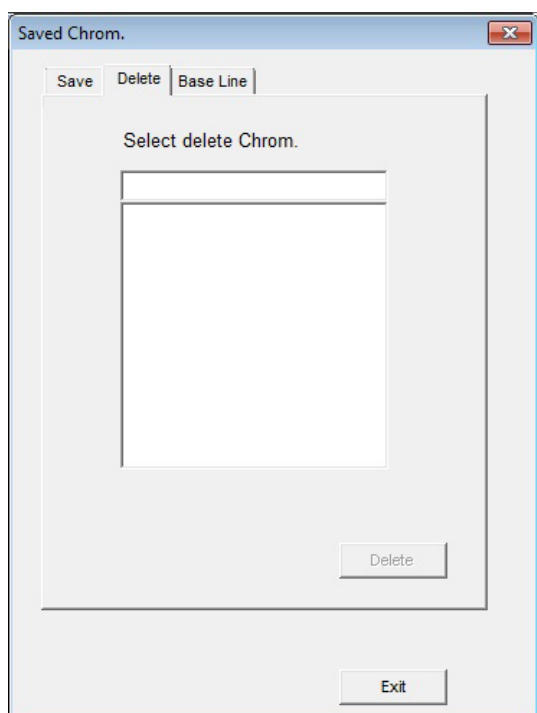


Figure 4.51 Delete Saved Chromatogram dialog box

- 1) From the list of saved currently displayed chromatograms in the Chromatogram window, select a saved chromatogram to be deleted.
- 2) After selecting a saved chromatogram you want to delete, click the “Delete” button. This causes the “Do you want to delete?” confirmation message to appear.
- 3) Clicking “OK” deletes the appropriate chromatogram in GC8000.

● Saving a baseline chromatogram

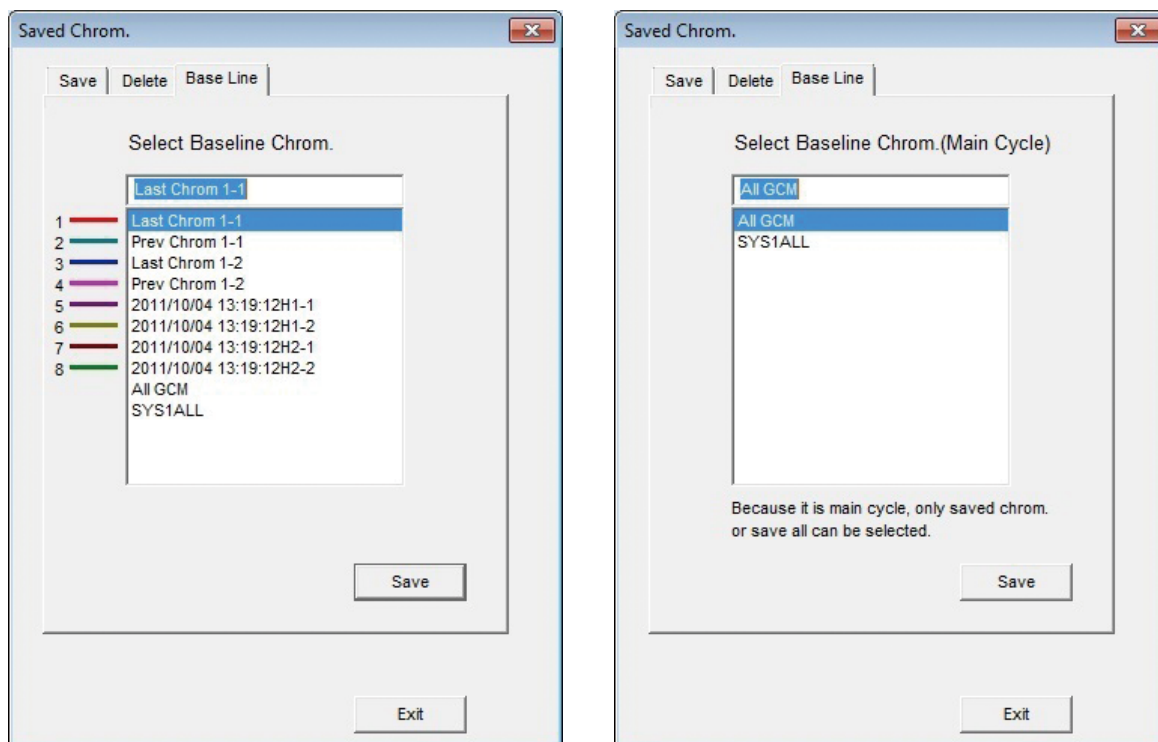


Figure 4.52 Save Baseline Chromatogram dialog box (left) Dialog box in tandem display mode (right)

- 1) In the Save Baseline Chromatogram dialog box, select a chromatogram to be saved as a baseline chromatogram from currently displayed chromatograms in the Chromatogram window.
- 2) Click the "Save" button. This causes the "Do you want to save?" confirmation message to appear.
- 3) Clicking "OK" saves the baseline chromatogram into GC8000.

4.4.22 Snap Shot

The snap shot function memorizes the coordinates and enlargement factor in the Enlargement Display window, and reproduces the status just by a single click.

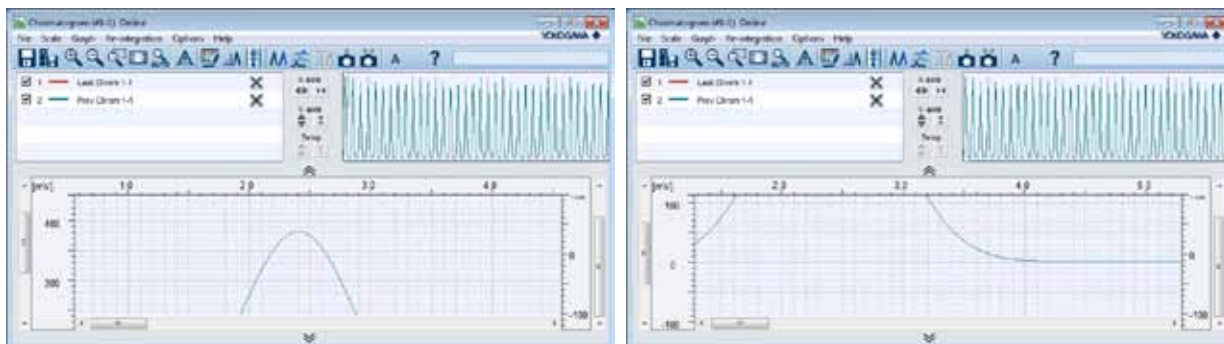






Figure 4.53 Snap shot examples (left: snap 1, right: snap 2)

Above examples show that the left figure is displayed when snap 1 is called and the right figure is displayed when snap 2 is called.

The following shows statuses of toolbar buttons and snap shots.

-  : A status where snap 1 is not stored. Clicking this button in this state stores the current coordinates and enlargement factor.
-  : A status where snap 2 is not stored. Clicking this button in this state stores the current coordinates and enlargement factor.
-  : A status where snap 1 is stored. Clicking this button in this state reproduces the stored coordinates and enlargement factor in the enlargement display area.
-  : A status where snap 2 is stored. Clicking this button in this state reproduces the stored coordinates and enlargement factor in the enlargement display area.

4.5 Analysis Results Windows

The analysis results windows display data that has been analyzed by the analyzer. They consist of the following windows.

Latest Analysis Results, Concentration Analysis History, Retention Time History, Peak Relating Data History, Calibration Coefficient History, File Analysis Results, File Concentration Analysis History, File Peak Relating Data History, File Retention Time History, File Calibration Coefficient History.

The Latest Analysis Results window appears upon the start-up of the latest analysis results windows.

To switch the window, select a window in the Window menu of the Analysis Results window or select a tab.

Latest Analysis Results, Concentration Analysis History, Retention Time History, Peak Relating Data History, and Calibration Coefficient History must be used in online mode. In off-line mode, those items are grayed out and cannot be selected. This also applies to tab selection.

The average values of File Analysis Results, File Concentration Analysis History, File Retention Time History, File Peak Relating Data History, and File Calibration Coefficient History can also be displayed in off-line mode.

4.5.1 Latest Analysis Results

When the Latest Analysis Results window starts up, the latest analysis results are displayed for each system. The head system number belonging to GCM is displayed for the system.

#	Stream#-Peak#-PeakName	Conc.	R.Time	Det.#	Peak time			Gate		Tracking	Peak Level			Area	P/H	H-Width	Tailing Coeff.	C.V.	Calc.
					S.Time	R.Time	E.Time	Start	End		S.Level	H.Level	E.Level						
31	07-001-PK7_1 (voppm)	0.963	4.8	1-1	5.0	4.8	7.5	3.8	7.5	none	0.278	374.196	33.487	915.209	P	4.3	0.92	0.300	External Src
32	07-002-PK7_2 (voppm)	0.952	14.8	1-1	11.0	14.8	17.5	11.3	17.5	none	0.461	357.883	11.222	904.438	P	5.3	0.90	0.300	External Src
33	07-003-PK7_3 (mof%)	0.939	24.8	1-1	21.0	24.8	27.5	21.3	27.5	none	0.722	342.473	35.209	892.367	P	6.4	0.89	0.300	External Src
34	07-004-PK7_4 (moppm)	0.963	34.8	1-1	31.0	34.8	37.5	31.3	37.5	none	0.278	374.196	33.487	915.209	P	4.3	0.92	0.300	External Src
35	07-005-PK7_5 (moppm)	0.952	44.8	1-1	41.0	44.8	47.5	41.3	47.5	none	0.461	357.883	11.222	904.438	P	5.3	0.90	0.300	External Src
36	07-006-PK7_6 (kg/ml)	1.982	54.8	1-1	51.0	54.8	57.5	51.3	57.5	none	0.722	342.473	35.209	892.367	P	6.4	0.89	0.300	External Src
37	07-007-PK7_7 (Feet/min)	1.987	64.8	1-1	61.0	64.8	67.5	61.3	67.5	none	0.278	374.196	33.487	915.209	P	4.3	0.92	0.300	External Src

Figure 4.54 Latest Analysis Results window

● Display contents

The following list the display contents for each item.

Item	Description
Concentration	Indicates concentration for each peak.
Retention Time	Indicates retention time (second) for each peak.
Det.#	Indicates detector number (1 to 6) for each peak.
Peak start/Retention/end	Indicates peak processing start time/retention time/end time (second) for each peak.
Gate start/end	Indicates gate start time/end time (second) for each peak.
Tracking	Indicates the peak pursuing status for each peak as "standard", "pursuit", or "none".
Peak Level start/height/end	Indicates the peak start level/height level/end level (mV) for each peak.
Area	Indicates the integral value of the peak level (mV second) for each peak.
Shape	Indicates the peak data processing status for each peak. It displays "P" for tangent correction resetting or "H" for the perpendicular method.
Half-value Width	Indicates half-value width (second) for each peak.
Tailing Coefficient	Indicates tailing constant for each peak.
Variation Coefficient	Indicates concentration variation coefficient for each peak.
Method	Indicates concentration computation method for each peak.
Separation Degree	Indicates peak separation degree from behind peak.
Base Level at Gate ON Time	Indicates base level of each peak at gate on time.
Noise Level at Gate ON Time	Indicates noise level of each peak at gate on time.
Base Level at Peak ON Time	Indicates base level of each peak at peak on time.
S/N	Indicates S/N of each peak.

● Displaying the Latest Analysis Results

- 1) Select Latest Analysis Results in the Window menu, or the Latest Analysis Results tab to display the Latest Analysis window.
- 2) Select SYS Select in the Display Item menu, or the SYS number of the analysis result you want to display from the SYS number select combo box on the toolbar.

- 3) Select Display Item Select in the Display Item menu, and open the Display Item Setting window.

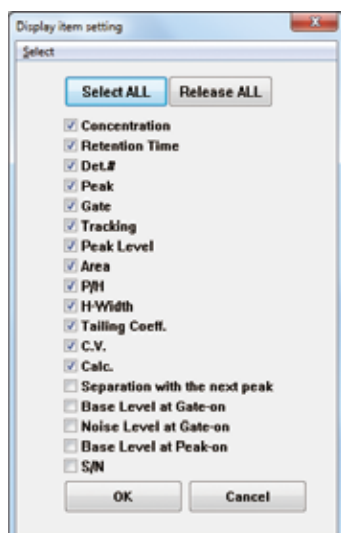


Figure 4.55 Display Item Setting window

- 4) In the Display Item Setting window, add a check mark (✓) to the item you want to display. If you want to display all items, click the Select All button. Click the OK button.
- 5) Select Auto Update from the File menu, or enable or disable automatic update using the auto update button on the toolbar. When automatic update is enabled, a check mark is added to Auto Update in the menu, causing the auto update button to be depressed. Then, the “being updated automatically” message appears on the title bar.
- 6) If automatic update is enabled and when analysis by the analyzer is complete, the analysis results are automatically updated in the Latest Analysis Results window. If automatic update is disabled, the Analysis Results window is not updated even when the analysis is complete.

● Displaying stored past analysis results (history)

- 1) Select Latest Analysis Results in the Window menu, or the Latest Analysis Results tab to display the Latest Analysis Results window.
- 2) Select SYS Select in the Display Item menu, or the SYS number of the analysis result you want to display from the SYS number select combo box on the toolbar.
- 3) Select Open History in the File menu, or the Open History command button on the toolbar to open the analysis result file setting dialog box.
- 4) Displayed is the analysis start date and time of the history file stored in the combo box. Select the desired year and month, then apply it by pressing the OK button.

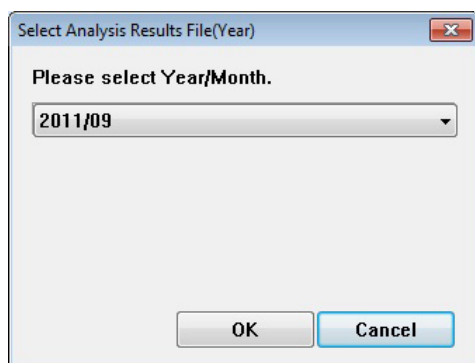


Figure 4.56 Year and month setting dialog box

- 5) Select a desired date from the analysis date setting dialog box, then apply it by pressing the OK button.

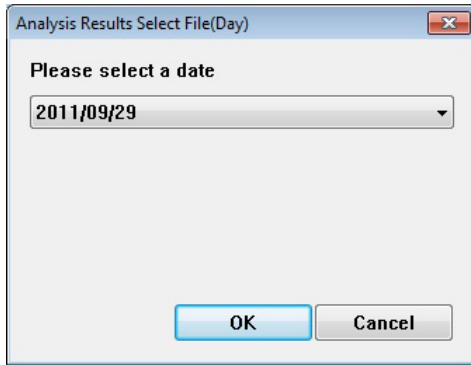


Figure 4.57 Date setting dialog box

- 6) Select a desired time from the analysis time setting dialog box, then apply it by pressing the OK button.

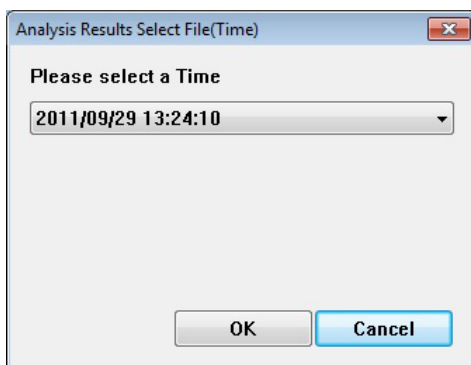


Figure 4.58 Time setting dialog box

- 7) The selected analysis results are displayed in the window.
- 8) Items you want to display can be selected from the Display Item Setting window.

4.5.2 Concentration Analysis History

The window displays the analysis results for all systems included in the selected GCM or for each system belonging to that GCM.

● Displaying from the latest concentration analysis results

- 1) Select Concentration Analysis History Window in the Window menu, or the Concentration Analysis History Window tab to display the Concentration Analysis History window.
- 2) Select SYS Select in the Display Item menu, or the SYS number or GCM of the concentration analysis result you want to display from the SYS number select combo box on the toolbar.
- 3) Select Open History in the File menu, or the Open History command button on the toolbar to open the history file setting dialog box.
- 4) From the radio button selecting Display from Latest or Display from History, select Display from Latest, then apply it by pressing the OK button.
- 5) The concentration analysis results are displayed for the latest and for up to 5,000 past analyses tracing back from the latest. Each time the latest analysis result is obtained, the results are automatically updated in the window. Then, the “being updated automatically” message appears on the title bar.

● Displaying concentration analysis (history) results from the past

- 1) Select Concentration Analysis History Window in the Window menu, or the Concentration Analysis History Window tab to display the Concentration Analysis History window.
- 2) Select SYS Select in the Display Item menu, or the SYS number or GCM of the concentration analysis result you want to display from the SYS number select combo box on the toolbar.
- 3) Select Open History in the File menu, or the Open History command button on the toolbar to open the history file setting dialog box.
- 4) From the radio button selecting Display from Latest or Display from History, select Display from History, then apply it by pressing the OK button.
- 5) From the Display from History combo box, select the desired year and month, and apply it using the OK button.

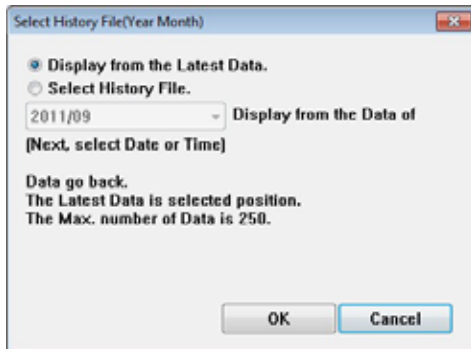


Figure 4.59 Year and month setting dialog box

- 6) Select a desired date from the analysis date setting dialog box, then apply it by pressing the OK button.

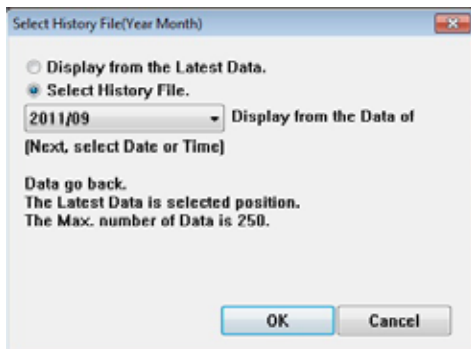


Figure 4.60 Date setting dialog box

- 7) Select a desired time from the analysis time setting dialog box, then apply it by pressing the OK button.

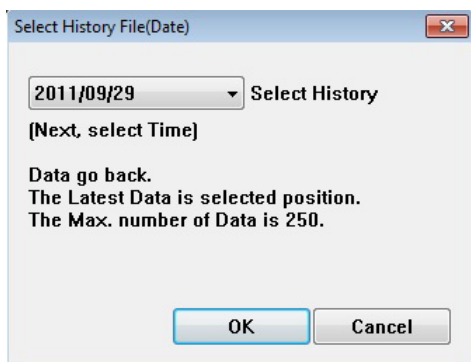


Figure 4.61 Time setting dialog box

- 8) The concentration analysis results are displayed for up to 5,000 past analyses tracing back from the specified file. The analysis results are then not automatically updated.

- **Setting the Number of History Data**

It can be set the obtained historical data number from PCAS or GC8000.

It is applied to concentration analysis history, Retention time history, and Cal. coefficient history.



Figure 4.62 Setting the Number of History Data

4.5.3 Retention Time History

The window displays the analysis results for all systems included in the selected GCM or for each system belonging to that GCM.

- **Displaying from the latest retention time**

- 1) Select Retention Time History in the Window menu, or the Retention Time History tab to display the Retention Time History window.
- 2) Select SYS Select in the Display Item menu, or the SYS number or GCM of the retention time result you want to display from the SYS number select combo box on the toolbar.
- 3) Select Open History in the File menu, or the Open History command button on the toolbar to open the history file setting dialog box.
- 4) From the radio button selecting Display from Latest or Display from History, select Display from Latest, then apply it by pressing the OK button.
- 5) The retention time results are displayed for the latest and past up to 5,000 analyses tracing back from the latest. Each time the latest analysis result is obtained, the results are automatically updated in the window. Then, the "being updated automatically" message appears on the title bar.

- **Displaying retention time (history) results from the past**

- 1) Select Retention Time History Window in the Window menu, or the Retention Time History Window tab to display the Retention Time History window.
- 2) Select SYS Select in the Display Item menu, or the SYS number or GCM of the retention time result you want to display from the SYS number select combo box on the toolbar.
- 3) Select Open History in the File menu, or the Open History command button on the toolbar to open the history file setting dialog box.
- 4) From the radio button selecting Display from Latest or Display from History, select Display from History, then apply it by pressing the OK button.

- 5) From the Display from History combo box, select the desired year and month, and apply it using the OK button.

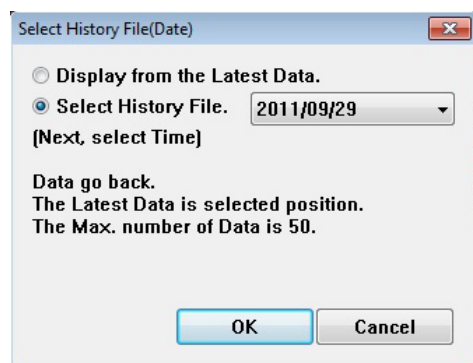


Figure 4.63 Year and month setting dialog box

- 6) Select a desired date from the analysis date setting dialog box, then apply it by pressing the OK button.

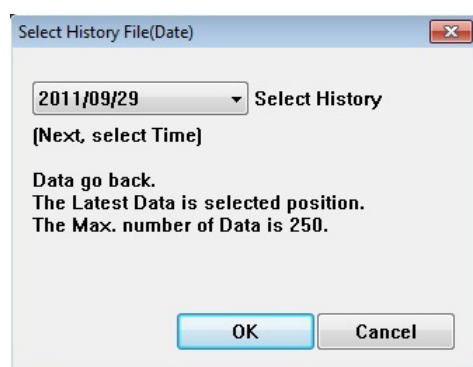


Figure 4.64 Date setting dialog box

- 7) Select a desired time from the analysis time setting dialog box, then apply it by pressing the OK button.

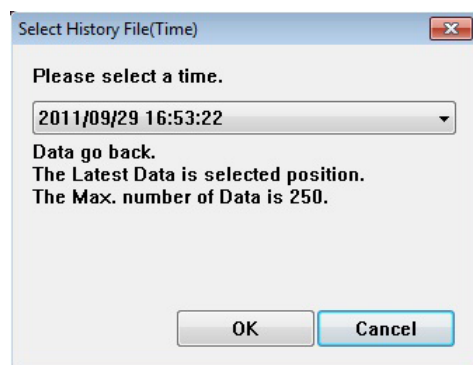


Figure 4.65 Time setting dialog box

- 8) The retention time results are displayed for up to 5,000 past analyses tracing back from the specified file. The analysis results are then not automatically updated.

4.5.4 Peak Relating Data History

Peak Relating Data (Variation coefficient, tailing coefficient, base level on gate-on timing, noise level on gate-on timing, base level on peak-on timing, and S/N) can be shown, by selected GCM including all SYS or showed by SYS under the selected GCM.

- **Displaying from the latest peak relating data results**

- 1) Select Peak Relating Data History Window in the Window menu, or the Peak Relating Data History Window tab to display the Peak Relating Data History window.
- 2) Select SYS Select in the Display Item menu, or the SYS number or GCM of the peak relating data result you want to display from the SYS number select combo box on the toolbar.
- 3) Select Open History in the File menu, or the Open History command button on the toolbar to open the history file setting dialog box.
- 4) From the radio button selecting Display from Latest or Display from History, select Display from Latest, then apply it by pressing the OK button.
- 5) The peak relating data results are displayed for the latest and for up to 5,000 past analyses tracing back from the latest. Each time the latest analysis result is obtained, the results are automatically updated in the window. Then, the “being updated automatically” message appears on the title bar.

- **Displaying peak relating data (history) results from the past**

- 1) Select Peak Relating Data History Window in the Window menu, or the Peak Relating Data History Window tab to display the Peak Relating Data History window.
- 2) Select SYS Select in the Display Item menu, or the SYS number or GCM of the peak relating data result you want to display from the SYS number select combo box on the toolbar.
- 3) Select Open History in the File menu, or the Open History command button on the toolbar to open the history file setting dialog box.
- 4) From the radio button selecting Display from Latest or Display from History, select Display from History, then apply it by pressing the OK button.
- 5) From the Display from History combo box, select the desired year and month, and apply it using the OK button.

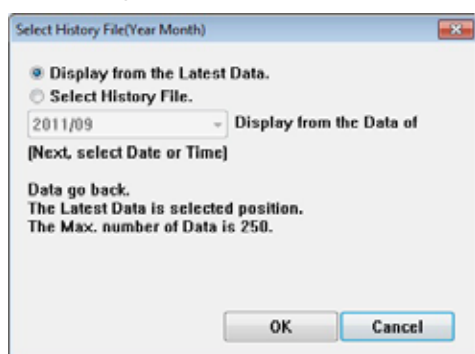


Figure 4.66 Year and month setting dialog box

- 6) Select a desired date from the analysis date setting dialog box, then apply it by pressing the OK button.

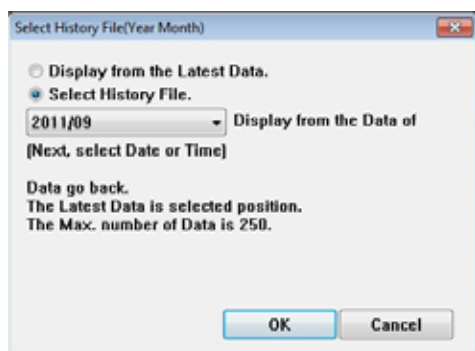


Figure 4.67 Date setting dialog box

- 7) Select a desired time from the analysis time setting dialog box, then apply it by pressing the OK button.

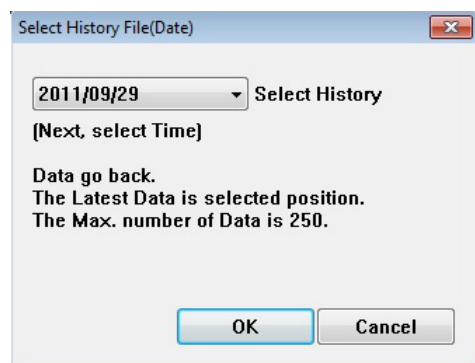


Figure 4.68 Time setting dialog box

- 8) The peak relating data results are displayed for up to 5,000 past analyses tracing back from the specified file. The analysis results are then not automatically updated.

4.5.5 Calibration Coefficient History Window

The window displays the analysis results for all systems included in the selected GCM or for each system belonging to that GCM.

- **Displaying from the latest calibration coefficient**

- 1) Select Calibration Coefficient History Window in the Window menu, or the Calibration Coefficient History Window tab to display the Calibration Coefficient History window.
- 2) Select SYS Select in the Display Item menu, or the SYS number or GCM of the retention time result you want to display from the SYS number select combo box on the toolbar.
- 3) Select Open History in the File menu, or the Open History command button on the toolbar to open the history file setting dialog box.
- 4) From the radio button selecting Display from Latest or Display from History, select Display from Latest, then apply it by pressing the OK button.
- 5) The calibration coefficients are displayed for the latest and past up to 5,000 analyses tracing back from the latest. Each time the latest analysis result is obtained, the results are automatically updated in the window. Then, the “being updated automatically” message appears on the title bar.

- **Displaying retention time (history) results from the past**

- 1) Select Calibration Coefficient History Window in the Window menu, or the Calibration Coefficient History Window command button on the toolbar to display the Calibration Coefficient History window.
- 2) Select SYS Select in the Display Item menu, or the SYS number or GCM of the retention time result you want to display from the SYS number select combo box on the toolbar.
- 3) Select Open History in the File menu, or the Open History command button on the toolbar to open the history file setting dialog box.
- 4) From the radio button selecting Display from Latest or Display from History, select Display from History, then apply it by pressing the OK button.
- 5) From the Display from History combo box, select the desired year, month and day, and apply it using the OK button.



Figure 4.69 Year and month setting dialog box

- 6) The calibration coefficient results are displayed for up to 5,000 past analyses tracing back from the specified file. The analysis results are then not automatically updated.

4.5.6 Plotting History Data on Graph

The Concentration Analysis History, Retention Time History, Peak Relating Data History, and Calibration Coefficient History data can be displayed on a graph.

● Drawing a graph

- 1) From Concentration Analysis History, Retention Time History, Peak Relating Data History, and Calibration Coefficient History, select data you want to display on a graph and display it in either of the windows.
- 2) Select Graph A, Graph B, or Graph C in the Graph menu, or Graph A, Graph B, or Graph C on the toolbar to open the Graph Setting window.

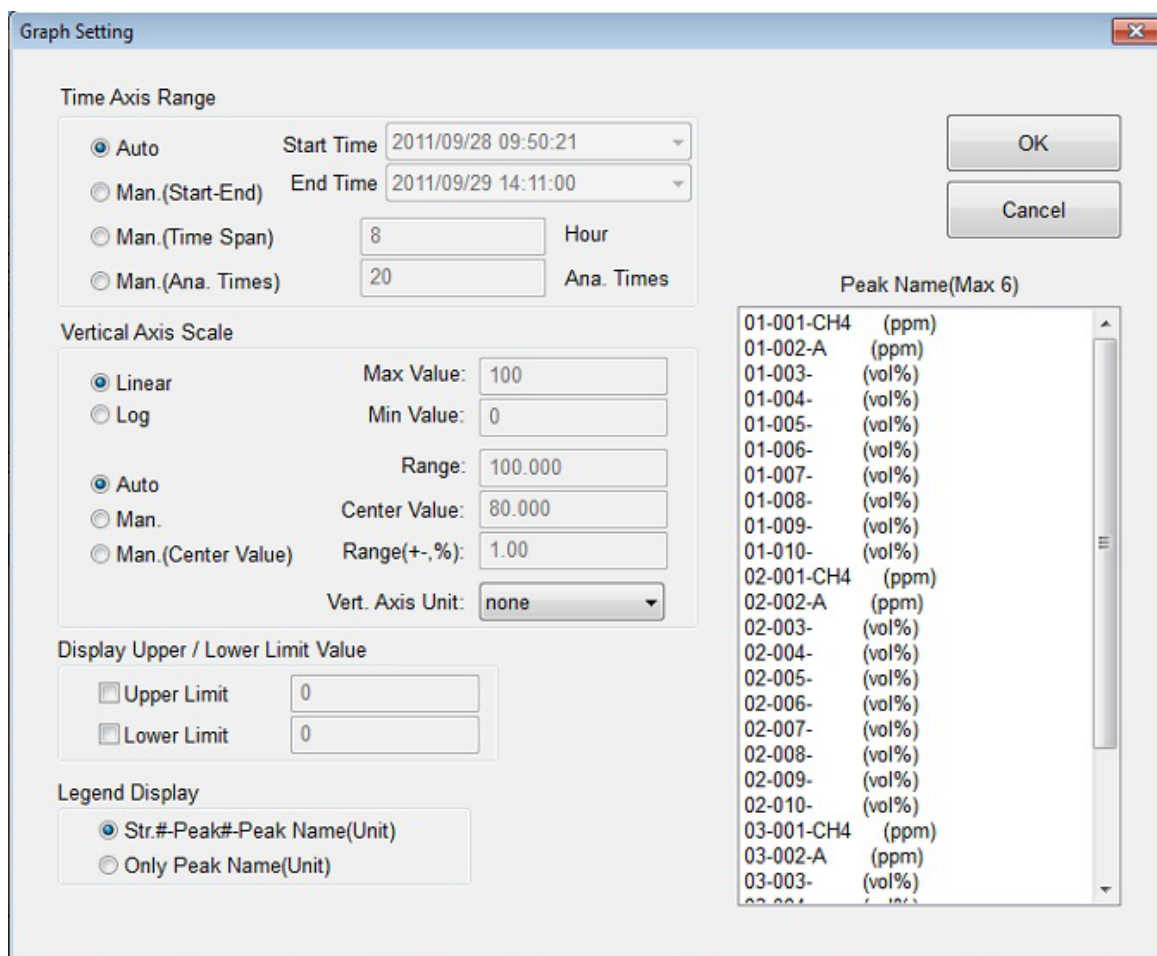


Figure 4.70 Graph Setting window

- 3) From the setting window, select peak names for which you want to create a graph. Up to six peak names can be selected at a time.
- 4) Set up the time axis range. The following shows the setup conditions:
 - If “Auto Setup” is selected, the graph displays results for 5,000 analyses tracing back from the latest. Each time the latest analysis result is obtained, the graph window is automatically updated.
 - If “Manual Setup” is selected and when “From the latest analysis time” is selected for the end time, the graph window is automatically updated each time the latest analysis result is obtained.
 - If “Manual Setup” is selected, the setup range of tracing back is 1 to 72 hours and 1 to 5,000 analyses.
- 5) Set up the scale for the ordinate. The following shows the setup conditions:
 - Set the ordinate scale to either “Linear” or “Logarithmic”.
 - For the ordinate scale display range, select one of “Auto”, “Manual”, and “Manual (Center value)”. (If the ordinate scale is set to “Logarithmic”, “Manual (Center value)” cannot be selected.)
 - If “Manual” is selected, enter the “Maximum value” and “Minimum value” accordingly.
 - If “Manual (Center value)” is selected, enter the “Center value”, “Range”, and “+-(%)” accordingly.
 - If necessary, set “Display or hide the upper and lower limits”. Add a check mark and enter the value to display a horizontal line indicating the upper limit or lower limit on the graph. The limits only indicate the data range and, even if a analysis result falls out of the range, other operation (such as alarm) will not occur.
- 6) Click “OK” to display the graph. If the time axis range is set to “Auto Setup”. then the “being updated automatically” message appears on the title bar.

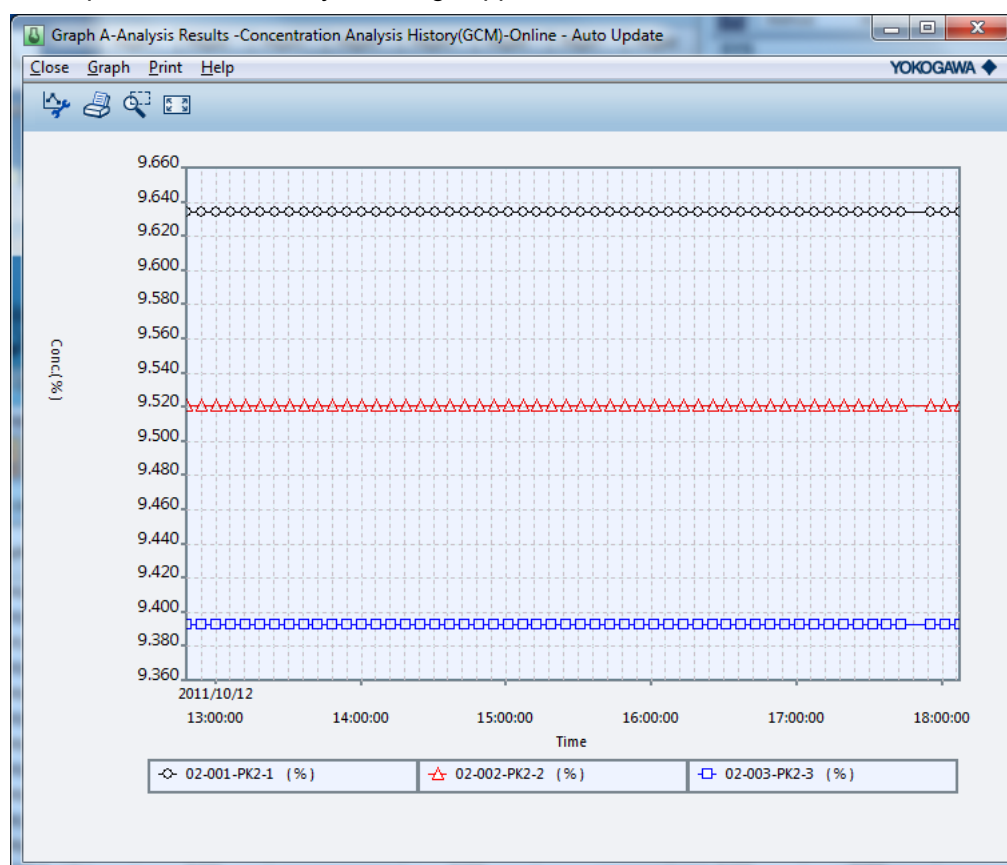


Figure 4.71 Graph window

- **Partial enlargement of graph**

- 1) Click on Part Enlargement in the Graph menu.
- 2) The range can be specified by dragging a part you want to enlarge in the graph window.
- 3) The specified area is enlarged.
- 4) Select Undo in the Graph menu to restore the status before enlargement.

4.5.7 Calling up Re-integration Window from Analysis Results Window

- **Re-integration from the Concentration Analysis Results window and Retention Time History window**

The Chromatogram Re-integration window can be called from the Analysis Results window by performing the following operations at user level C+.

- (1) While the Concentration Analysis Results window and Retention Time History window appear, left double-click "Peak concentration" or "Peak retention time" you want to re-integrate, or select "Re-integration" in the menu at right.
In the Chromatogram Re-integration window started up then, the selected "Peak" has already been selected as the re-integration target.
- (2) While the Concentration Analysis Results window and Retention Time History window appear, left double-click "Analysis start date and time" including the peak concentration or retention time you want to re-integrate, or select "Re-integration" in the menu at right.
In the Chromatogram Re-integration window started up then, all peaks in "Analysis start date and time" have already been selected as the re-integration target.



CAUTION

If the Concentration Analysis Results window and Retention Time History window display GCM, and the Chromatogram Re-integration window is called from "Analysis start date and time", the system select box appears. Select and determined the SYS number. If only a single target GCM is in the system, the system select box does not appear.

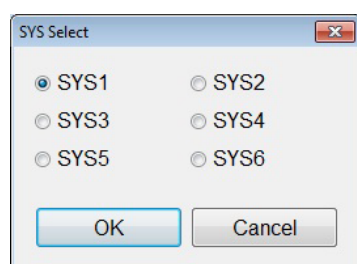


Figure 4.72 System select box

#	Strm#-Peak#-PeakName	2011/09/29 14:21:00	2011/09/29 14:16:00	2011/09/29 14:11:00	2011/09/29 14:08:00	2011/09/29 14:01:00	2011/09/29 13:55:59	2011/09/29 13:52:02
1	01-001-CH4 (ppm)	186.248	190.173	198.333	202.955	220.355	241.426	265.328
2	01-002-A (ppm)	257.921	258.056	258.360	258.618	258.976	259.186	259.784
11	02-001-CH4 (ppm)							
12	02-002-A (ppm)							
21	03-001-CH4 (ppm)							
22	03-002-A (ppm)							

Re-integration on Individual Peaks
(select it from a menu that opens with a
double click on the left mouse button or a
click on the right mouse button)

Re-integration on Analysis Start Date and Time
(select it from a menu that opens with a double
click on the left mouse button or a click on the
right mouse button)

The re-integrated results are updated in all of the Concentration Analysis, Retention Time, and Analysis Results windows. However, if GCM is displayed, only the peak value of the selected SYS number is updated.

When the history chromatogram is not saved yet, the re-integration cannot be performed.

● Re-integration from File Concentration Analysis History and File Retention Time History

In online mode, the operation is the same as that for “Re-integration from the Concentration Analysis History and Retention Time Analysis History”

However, the analysis results only update the called display window.

Example: If re-integration is performed from the File Concentration Analysis History window, only the File Concentration Analysis History window is updated and other windows (such as File Retention Time window) are not updated.

In off-line mode, Re-integration (Off-line) is displayed in the right-click menu. When executed, the re-integration file select window opens, where you can select the file required for re-integration.

The re-integration results only update the called display window.

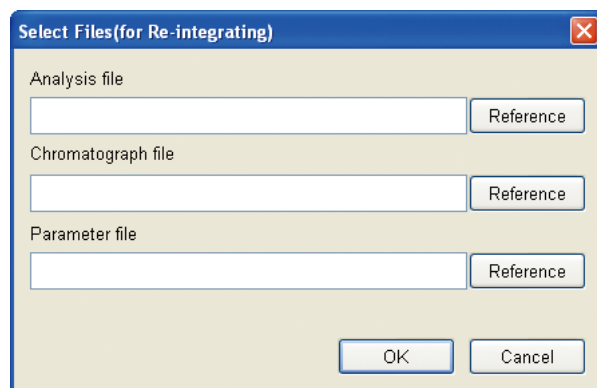


Figure 4.73 Re-integration file select window

4.6 Analyzer Configuration Window

The Analyzer Configuration Window is a window displaying the GCM or SYS configuration of the connected GC8000, the equipment configuration of streams, valves, detectors, etc., and a list of equipment statuses.

This window is for display only. It is not possible to operate any equipment from this window.

The Analyzer Configuration Window consists of two windows: the GCM Map and Stream Map Windows. The display can be switched by selecting the corresponding tab.

● GCM Map Window

The GCM Map Window shows the following information:

- Number of GCMs set to the GC8000
- SYS numbers set to THE GCM
- Number of isothermal ovens in the GC8000 and their ON/OFF statuses
- Valve settings and their ON/OFF statuses
- Types of detectors (TCD/FID/FID-MC/FPD)
- Presence/absence of EPCs (Carrier n-1 to n-2 and Utility n-1 to n-4; “n” stands for an oven number)
- Presence/absence of a hydrogen limiter and its ON/OFF status
- Presence/absence of stream valves and their statuses (stream 1 to 31 or OFF)
- Presence/absence of ATM balanced valves and their ON/OFF statuses
- Stream valves and ATM balanced valves set to THE GCM
- Valves and detectors set to SYS

The following shows an example display of the GCM Map Window:



Figure 4.74 GCM: 6, SYS: 6, detector: 6

- **Stream Map Window**

The Stream Map Window displays a list of GCM numbers assigned to streams (1 to 31).

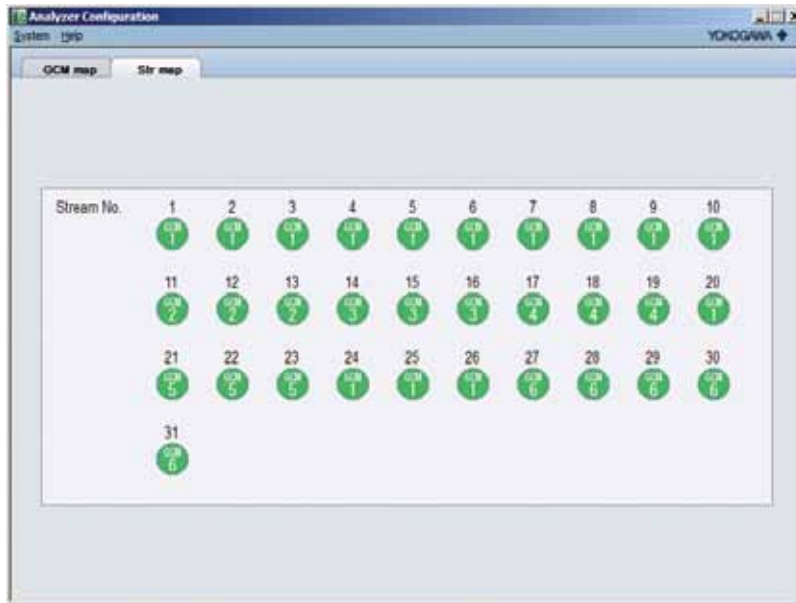
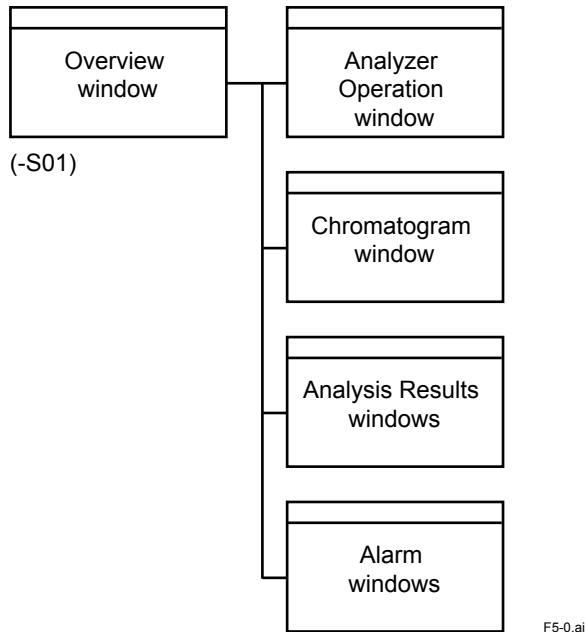


Figure 4.75 Stream Map Window

5. Display and Operations while Connected to GC1000 Mark II

This chapter describes the display and operations of the Overview window, Analyzer Operation window, Chromatogram window, and Analysis Results window when the Engineering Terminal is connected to a GC1000 Mark II on the Overview window.

Display and operations of the Alarm window are common, regardless of the analyzer type. See Chapter 7.



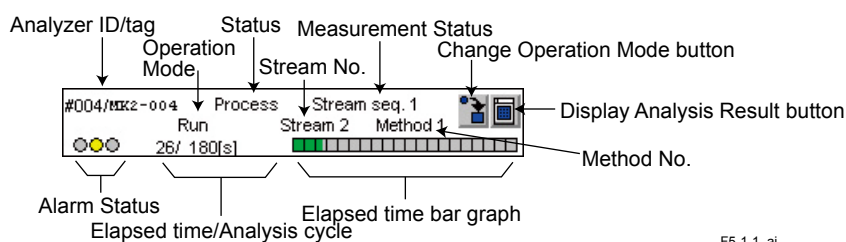
5.1 Overview Window

5.1.1 Analyzer Status Window for GC1000 Mark II

● Configuration

The Analyzer Status window is the main part of the Overview window. It displays the latest operation statuses of up to 16 analyzers that have been specified in advance, and updates display data automatically at 1-second intervals. You can click a button in the window to change the operation mode or to display the Latest Analysis Results window.

- The analyzers displayed in the Analyzer Status window when the Overview window is displayed for the first time after installation are those automatically selected from the analyzers specified for the analyzer server. To change this to display the required analyzers, execute the Set Page command in the Display Setting menu.



F5-1-1, ai

● Functions and Display Information of Elements

Button/Display	Function and Display Information
Analyzer ID	Indicates the ID number of the displayed analyzer.
Status	Indicates the current status of the displayed analyzer ID.
Measurement Status	Indicates the current measurement status of the displayed analyzer ID.
Operation Mode	Indicates the current operation mode of the displayed analyzer ID.
Stream No.	Indicates the current stream number of the displayed analyzer ID.
Method No.	Indicates the current method number of the displayed analyzer ID.
Change Operation Mode button	Displays the dialog box for changing the operation mode of the displayed analyzer. Only level-B or -C users can use this button.
Display Analysis Result button	Displays the Latest Analysis Results window. The Latest Analysis Results window can display the results of multiple analyzers simultaneously.
Alarm Status	Displays the current alarm status as follows. Moreover, double clicking the alarm status causes the Alarm Status window of that analyzer to appear. Illuminated in green: No alarm Illuminated in yellow: Level-2 alarm occurred. Illuminated in red: Level-1 alarm occurred.
Elapsed time	Indicates the current elapsed time in seconds.
Analysis cycle	Indicates the analysis cycle of the current analysis. This is indicated only when the information can be obtained in Process mode.
Elapsed time bar graph	When the analysis cycle is obtained, this displays the current analysis progress condition of the displayed analyzer in a bar graph.
(Enable)/Disable	Indicates the current connection status of the displayed analyzer with respect to the analyzer server. "Disable" is indicated if connection is not possible; otherwise, the field remains blank.

5.1.2 Changing the Operation Mode and/or Measurement Status

You can change the GC1000 Mark II operation mode and/or measurement status.
Before changing the operation mode or measurement status, GC1000 Mark II must be selected.




CAUTION

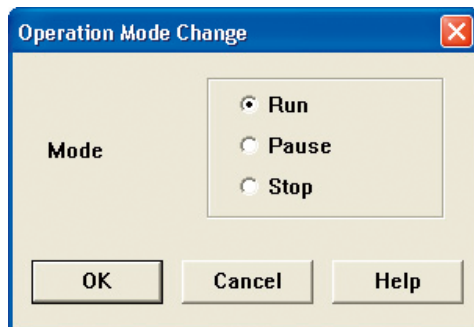
Only level-B or -C users can change the operation mode or operation pattern.

■ Changing the Operation Mode

● Operation procedure

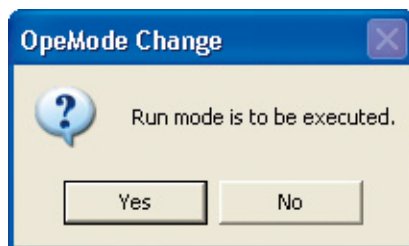
- (1) Click on the Change Mode command in the Mode menu.
 - Clicking the-  button of the target analyzer in the Analyzer Status window allows you to simultaneously specify the analyzer ID and mode change.

The dialog box for changing the operation mode of the specified analyzer appears.



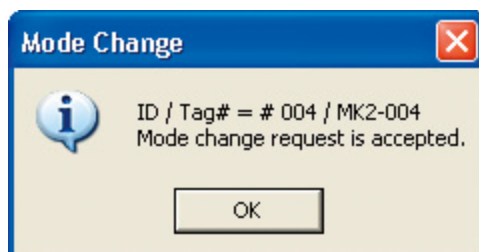
F5-1-2.ai

- (2) Choose a new operation mode and click the OK button.
A dialog box appears confirming whether you want to change the operation mode.



F5-1-3.ai

- (3) Click the Yes button.
A dialog box appears indicating whether the change was accepted.



F5-1-4.ai

- (4) Click the OK button.

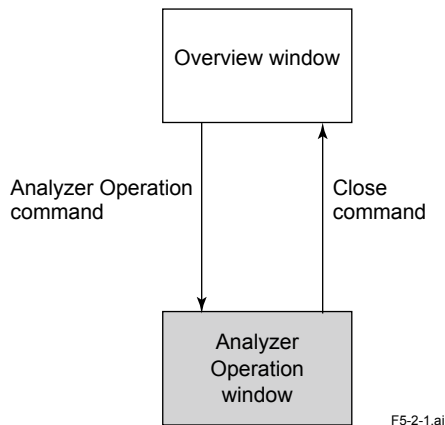
■ Changing Measurement Status

You can change the measurement status using a command in the Measurement Status menu in the Overview window. For more information, see subsection 4.2.4, “Changing Status/Operation Mode/ Measurement Status,” in section 4.2, “Analyzer Operation Window.”

5.2 Analyzer Operation Window

The Analyzer Operation window displays the analyzer status of the pertinent analyzer ID. It visually displays the latest operation status of the analyzer with the specified ID and allows you to operate that analyzer. The data updating cycle is 1 second.

[Associated windows]



5.2.1 Displaying and Exiting the Analyzer Operation Window

This section describes how to display and exit the Analyzer Operation window.



CAUTION

You cannot start multiple Analyzer Operation windows. If you attempt to display the Analyzer Operation window of a different-ID analyzer, the display shown so far will be erased.

■ Display

Specify an analyzer ID in the Overview window to display the Analyzer Operation window.




SEE ALSO

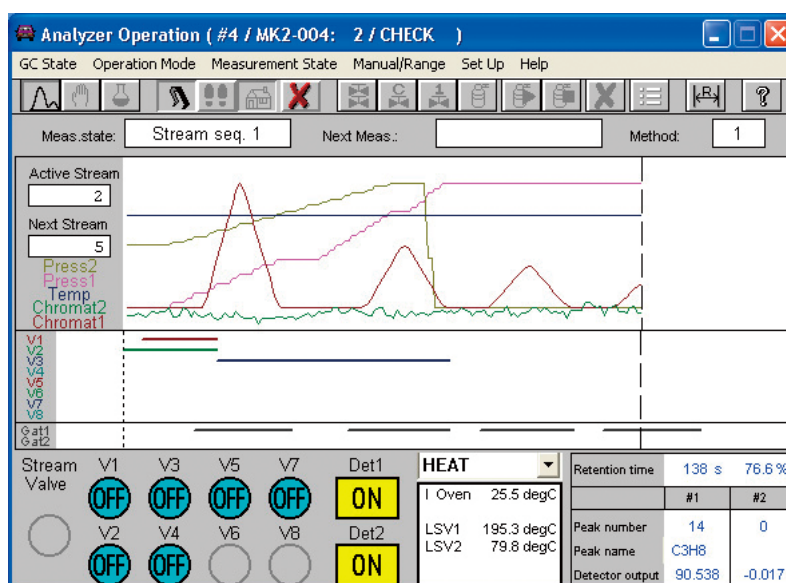
For specifying an analyzer ID, see section 3.6, “Selecting Analyzer.”

● Operation procedure

Click on the Analyzer Operation command in the window menu.

- You can also conduct this operation by clicking the-  button on the toolbar.

The Analyzer Operation window appears.



■ Exiting

● Operation procedure

Click on the Close command in the Control menu while the Analyzer Operation window is in an active state.

The Analyzer Operation window is closed.

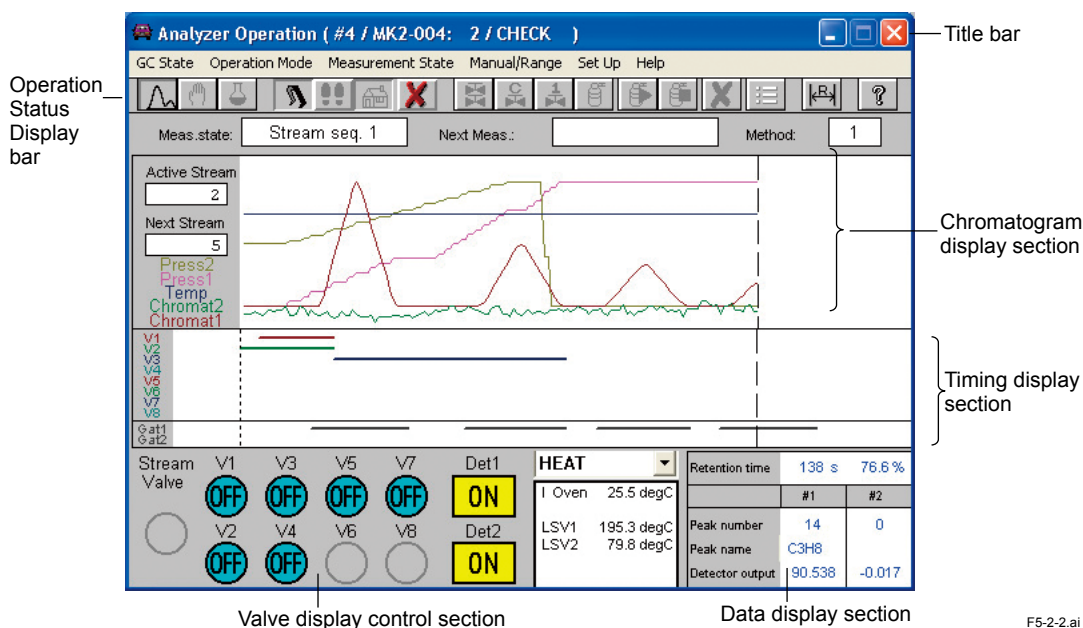
5.2.2 Configuration of the Analyzer Operation Window

The Analyzer Operation window is intended for monitoring analyzer status in detail and for analyzer operations. It displays the latest operation status of the analyzer and enables operation of the analyzer. The data updating cycle is 1 second.

- During individual connection to ASI, the Analyzer Operation window cannot be displayed.

■ Element Names

The following shows the element names of the Analyzer Operation window.

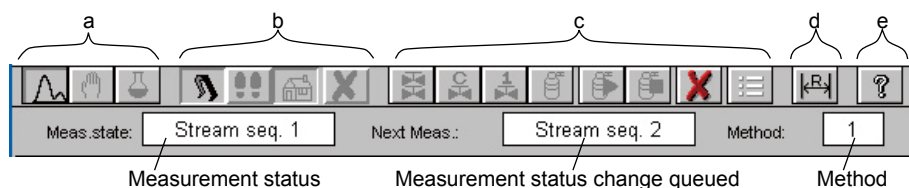


F5-2-2.ai

■ Operation Status Display Bar

The Operation Status Display bar is a tool for monitoring the current operation status of the analyzer and for operating it.

● Window elements



a: Status (change command) buttons

“Process” status
“Manual” status
“Lab” status

b: Operation Mode (change command) buttons

“Run” mode
“Pause” mode
“Stop” mode
“Cancel Command”
(dedicated for commanding)

c: Measurement Status Change specifying buttons

“Stream Sequence”
“Stream (Continuous)”
“Stream (Once)”
“Calibration (Verification)”
“Start Calibration (Verification)”
“End Calibration (Verification)”
“Cancel Setting”
“Calibration (Verification) Method”

d: Change Range command button

e: Help Display button

F5-2-3.ai

● Button functions and display information

The following table lists the button/display functions and display information.

Button/Display	Function and Display Information
Status (change command) buttons	These buttons display the current analyzer status. They also enable you to conduct status change by clicking the status button that you want to change.
Operation Mode (change command) buttons	These buttons display the current analyzer operation mode and the status in which operation mode change has been commanded and reserved. They also enable you to change the command mode by clicking the operation mode button that you want to change. The “Cancel Command” button is used to cancel queued operation mode changes.
Measurement Status Change setting buttons	These are setting dedicated buttons used to specify measurement status by clicking the button of the measurement status you wish to change to. The “Start Calibration (Verification)” and “End Calibration (Verification)” buttons are used to start/end calibration (verification) manually. The “Cancel Setting” button is used to cancel queued measurement status changes. The “Calibration (Verification) Method” button is used to change the calibration (verification) method.
Range Change command button	Commands a range change. If a database-related setting change is made on the analyzer unit side, a message appears, disabling command issuance. This button requires user level B.
Help Display button	Displays the Help mode of the Analyzer Operation window.
Measurement status	Indicates the current measurement status.
Measurement status change queued	When a measurement status change has been made, this box indicates the currently specified measurement status until the measurement status changes to the specified one.
Method	Indicates the current method number.

HELP !

To operate the Operation Status Display bar, user level “B” or “C” is required.



SEE ALSO

For how to change the user level, see section 3.4.

■ Chromatogram Display Section

The chromatogram display section is a part of the Analyzer Operation window that displays the latest chromatogram for every analysis cycle.

It displays one chromatogram if there is one detector or two chromatograms if there are two detectors. It also displays the temperature pattern of the programmed temperature oven or isothermal oven. In addition, this section displays one pressure graph for one EPC or two pressure graphs for two EPCs.

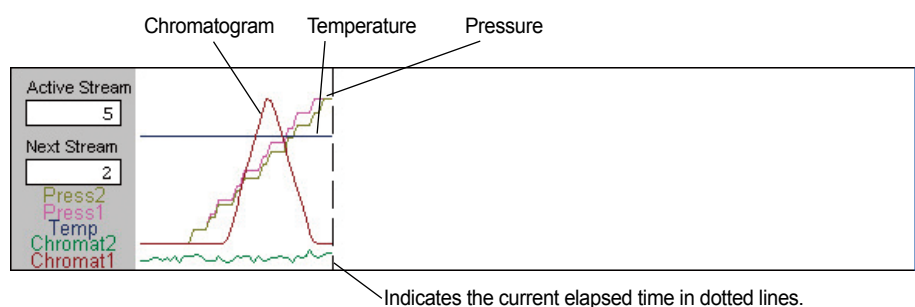
Because the current elapsed time is indicated by dotted lines, which timing and where the current location is in the analysis cycle is recognizable at a glance.



SEE ALSO

For the Chromatogram Display window, see Chapter 5.

● Window elements



F5-2-4.ai

● Contents of display

The scales are displayed as follows:

Scales/Item	Description
Horizontal Scale	The analysis cycle set for each stream is regarded as a full scale. In Manual mode, when you issue the measurement start command from the window, chromatogram display starts and continues until the measurement end command is issued. During this period, each time a chromatogram exceeds the horizontal axis, the time scale is automatically extended and adjusted so that the entire chromatogram is displayed.
Vertical Scale	The vertical scale is displayed in auto scale and is automatically adjusted so that data deflection up to that time is about 80% of the range. Auto scaling is independently achieved for both chromatograms and temperature.
Stream under Measurement	Indicates the number of the stream currently being measured. In conditions where sample replacement is possible (calibration (verification) method can be done in manual only), "Replacement available" is displayed.
Stream to be Measured Next	Indicates the number of the stream scheduled to be measured next. If the stream concerned is under preparation, a "P" indication is added.

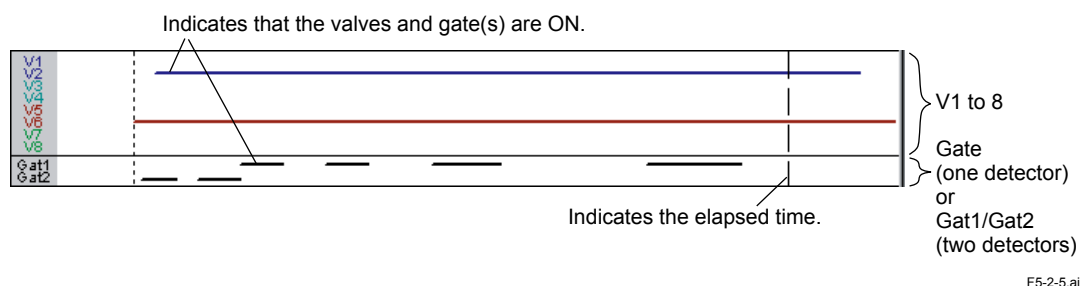
■ Timing Display Section

The timing display section is the part of the Analyzer Operation window that displays the ON/OFF status of the valves for each analysis cycle and the ON/OFF timing of the gate(s).

The current elapsed time is indicated by dotted lines; which timing and where the current location is in the analysis cycle is recognizable at a glance.

If there are two detectors, the gate ON/OFF timing is displayed on a detector basis.

● Window elements



● Contents of display

The following table lists the contents of the display:

Scale/Item	Description
Horizontal Scale	The horizontal scale is displayed in the analysis cycle set for each stream.
V1 to 8	Displays the ON/OFF status of valves 1 to 8 in bar graphs.
Gate or Gat1/Gat2	Displays the ON/OFF status of gate(s) in bar graph(s).

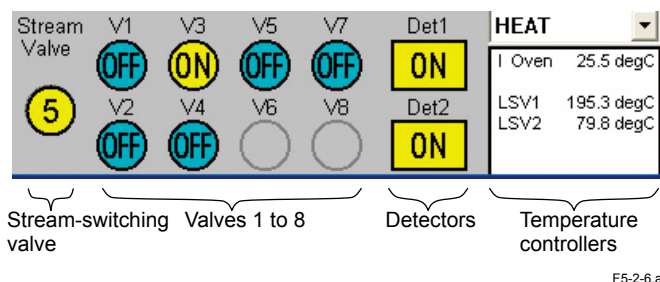
■ Valve Display Control Section

The valve display control section displays the status of the analyzer stream-switching valve (current number or OFF), the ON/OFF status of valves in the analyzer, the ON/OFF status of the detector(s), and the temperature controller status. It also allows you to perform status change.



User level "C" is required to operate the valve display control section and the system must be in Manual mode.

● Window elements



● Contents of display

The following table lists the contents of the display:

Display Item	Description
Stream Valve	Indicates the stream-switching valve status by number. If all the valves are OFF, this section is grayed out.
V1 to 8	Indicates the ON/OFF status of valves 1 to 8.
Det1/Det2	Indicates the ON/OFF status of the detectors. When the status is in Manual mode, moving the mouse cursor over this section and clicking the right button causes the Detector Signal Display window to appear.
HEAT/PRESS/AI	Displays one of the following: temperature controller status, EPC status, or AI value. Which value to display can be selected using the List Button box. When the status is in Manual mode and either HEAT or PRESS is displayed, moving the mouse cursor over this section and clicking the left button causes the Temperature Control Unit Operation window or Pressure window to appear respectively.



SEE ALSO

For detector signals and temperature controller status display, see section 3.3.

■ Data Display Section

The data display section is the part of the Analyzer Operation window that displays the elapsed time, peak number, peak name, and detector signal. The data updating cycle is 1 second. If there are two detectors, data is displayed on a detector basis.

● Window elements

Retention time	39 s	21.6 %	Common data section
	#1	#2	
Peak number	11	0	
Peak name	Peak1		
Detector output	92.128	-0.014	
	Detector 1 data	Detector 2 data	

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● Contents of display

The following table lists the contents of the display:

Display Item	Description
Elapsed Time	Indicates the time (second) that has elapsed from the start of analysis. This section also shows the ratio of the elapsed time to the analysis cycle in %. In the Manual mode, because the time axis is automatically adjusted, the ratio of the elapsed time to the full scale is indicated in %. In cases of being prepared, this part indicates the elapsed time in minus value.
Peak Number	Indicates the number of the peak currently being detected.
Peak Name	Displays the name of the peak currently being detected. Moving the mouse cursor over the peak name causes the peak name to appear as a tool hint.
Detector Output	Displays a detector signal in mV. The chromatogram displayed in the chromatogram display section represents the pattern of this signal

5.2.3 Displaying Detector Status

Right clicking on the detector area of the valve display control section, or left clicking the temperature controller display causes a detector signal or temperature controller status to be displayed respectively. The updating cycle of these displays is 3 seconds.



SEE ALSO

For changing the operation of the valve display control section, see section 3.6.

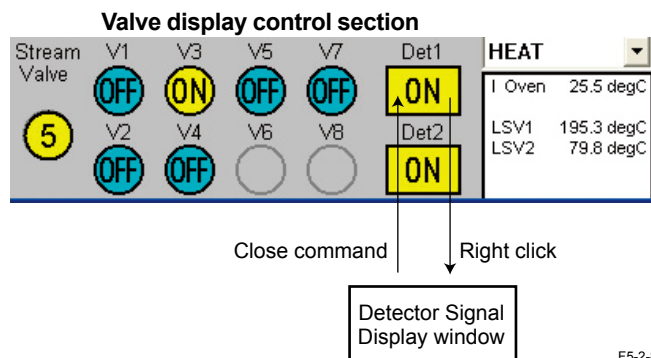
Detailed Display of Detector Signal(s)

Display procedure

If there are two detectors, you can select one of them in the valve display control section.

- (1) Move the mouse cursor over the desired detector area of the valve display control section and right click.

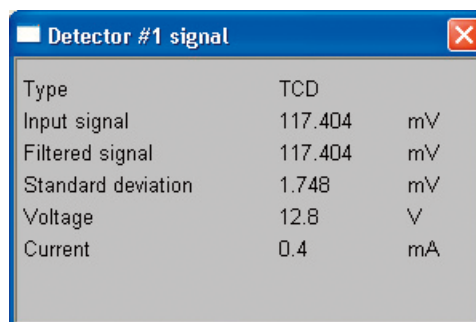
The Detector Signal Display window appears.



F5-2-8.ai

- (2) To exit the Detector Signal Display window, click on the Close command in the Control menu.

Window elements (Detector Signal Display window)



F5-2-9.ai

● Contents of display

The following table lists the contents of the display:

Display Item	Description
Type	Displays one of the following detector types: TCD, FID, FID-CONV (FID with a meta-converter), FPD, or "none".
Input Signal	Displays a value obtained by averaging the detector's analog signal sampled every 20 msec. that is then A/D converted, using a value that is set to the sampling rate.
Post-filtering Signal	Displays the value obtained by filtering out an input signal using the value that has been set to the filter constant of the detector signal settings.
Standard Signal Deviation	Indicates the standard deviation of the past 20 input signals.
Applied Voltage Value	Indicates TCD bridge voltage (TCD only).
Current Value	Indicates TCD bridge current (TCD only).
Flame detection level	Displays the setpoint for the flame detection level. (FID, FID-CONV, FPD)
Thermocouple Signal	Displays a thermocouple signal. (FID, FID-CONV, FPD)
Flame Detection Status	Displays the flame detection status (burning/burning stopped). (FID, FID-CONV, FPD)
Converter Voltage Value	Displays a converter voltage value. (FID-CONV only)

5.2.4 Temperature Control Unit Operation Window

The Temperature Control Unit Operation window displays the statuses of temperature controllers at every section of the analyzer. Display information differs depending on the GC1000 type. The updating cycle for data other than isothermal oven temperature (for GC1000S/E/E) or programmed temperature oven temperature (GC1000D/T/W) is 1 second.

Moreover, this window allows you to change the ON/OFF statuses of the temperature controller at each section.

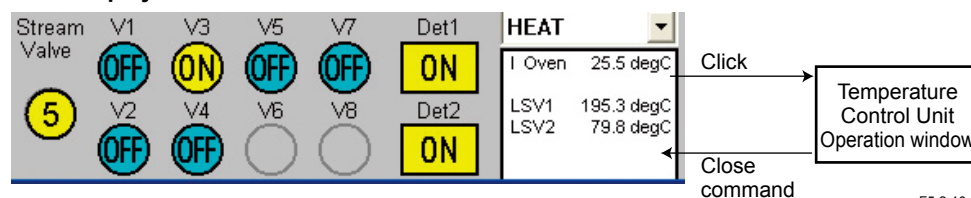
■ Detailed Display of Temperature Controllers

● Display procedure

- (1) Move the mouse cursor over the temperature controller area of the valve display control section and click.

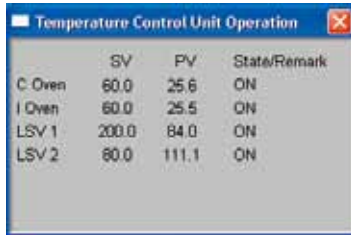
The Temperature Control Unit Operation window appears.

Valve display control section



- (2) To exit the Temperature Control Unit Operation window, click on the Close command in the Control menu.

- **Window elements (Temperature Control Unit Operation window)**



F5-2-11.ai

- **Contents of display**

The following table lists the contents of the display. The display items differ depending on the configuration of the temperature controllers.

Display Item	Description
SV	Displays the temperature controller setpoint.
PV	Displays the temperature controller measured value (current temperature).
State/Remark	Displays the temperature controller status and comment.
Programmed Temperature Oven*	Displays the temperature of a dual oven type programmed temperature oven.
Isothermal oven*	Displays the temperature of a dual oven type or single oven type isothermal oven.
LSV 1, LSV 2 *	Displays a sample valve temperature.
FPD	Displays FPD detector temperature for single oven type.

*: The high limit of the set temperature differs for the explosionproof type.

5.2.5 Pressure Display Window

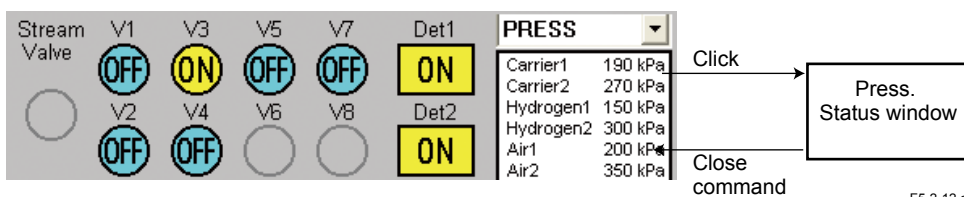
The Pressure Display window displays EPC statuses. The data updating cycle is 1 second.

- **Display procedure**

- (1) Move the mouse cursor over the pressure indicator area of the valve display control section and click.

The Press. Status window appears.

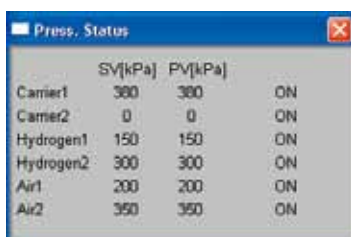
Valve display control section



F5-2-12.ai

- (2) To exit the Press. Status window, click on the Close command in the Control menu.

- **Window elements (Press. Status window)**



F5-2-13.ai

● Contents of Display

The following table lists the contents of display:

Display Item	Description
SV	Displays the EPC setpoint.
PV	Displays the measured value (current pressure) of EPC.
State/Remark	Displays EPC status and comment.
Carrier 1/2	Displays carrier gas 1/2 pressure.
Combustion Hydrogen 1/2	Displays combustion hydrogen 1/2 pressure.
Combustion Air 1/2	Displays combustion air 1/2 pressure.

5.2.6 Changing Status/Operation Mode/Measurement Status

The Operation Status Display bar on the Analyzer Operation window allows you to change the status, operation mode, and/or measurement status.



CAUTION




To change the status, operation mode, and/or measurement status, user level “B” or “C” is required. This is specified according to the change details.

Also, the analyzer must be in Remote mode.

■ Types of Statuses and Change

● Types of statuses

There are three status types as follows, and the current status is indicated by a depressed button.

Status	Button	Description
Process		Allows automatic operations. Also, it enables you to specify the measurement status.
Manual		Allows manual analysis. Also, valves, detector(s), and/or temperature controller status can only be changed in this status.
Lab		Allows lab analysis.




● Changing the status

To change the status, click the button of the status you wish to change to. The operable button(s) differs depending on current conditions. The operable button(s) is displayed in black; any status(es) not acceptable is grayed out.

■ Types of Operation Mode and Changing Procedure





● Operation mode types and current status display

There are three types of operation modes as follows:

Status	Button	Description
Run		Runs operation.
Pause		Pauses operation.
Stop		Activates the queued operation status.


The condition of each button indicates the current status of the operation mode.

(Example) In the case of "Run" mode

Button Status	Description
	"Run" mode is running.
	A request for change of "Run" mode can be made.
	"Run" mode is reserved.
	A request for change to "Run" mode cannot be made.

● Changing the operation mode





To change the operation mode, click the button of the operation mode you wish to change to. The operable button(s) differs depending on current conditions. The operable button(s) is displayed in black; any status(es) not acceptable is grayed out.

There is also a "Cancel Command" button . This is a command-dedicated button that cancels the queued operation mode.

■ Types of Measurement Statuses and Changing Procedure

● Types of measurement statuses


There are four types of measurement statuses as follows:

Measurement Status	Button	Description
Stream Sequence		Runs a stream sequence.
Stream (Continuous)		Measures a specified steam continuously.
Stream (One)		Measures a specified steam only once.
Calibration/Validation		Enables calibration or verification.

The current condition of the measurement status is displayed in the lower half of the Operation Status Display bar, and each button is command dedicated.



● Changing the measurement status

To change the measurement status, click the button of the measurement status you wish to change to. The operable button(s) differs depending on current conditions. The operable button(s) is displayed in black; any status(es) not acceptable is grayed out.

There is also a “Cancel Setting” button . This is a designation-dedicated button that cancels the queued measurement status change.

● Calibration (validation) methods

There are three types of calibration (validation) methods as follows:

Calibration (Validation) Method	Description
Automatic	Automatically conducts calibration (validation) according to the start time and the analyzer's pre-set time period.
Semi-automatic	Click the Calibration (Validation) button, specify the execution number, and touch the Run button to perform calibration (validation).
Manual	After clicking the Calibration (Validation) button, make preparations, then using the Start Calibration (Validation) button  and the End Calibration (Validation) button  conduct calibration (validation) manually.

Selection of a calibration (validation) method is made as follows:

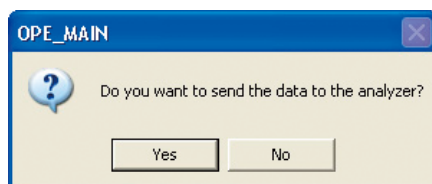
- (1) Click the Calibration (Validation) Method button .

The Calibration (Validation) Method dialog box appears.



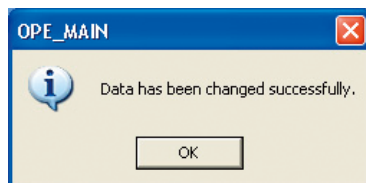
F5-2-14.ai

- (2) Check the radio button of the calibration (validation) method you wish to specify, then click the Execute button. A change confirmation dialog box appears.



F5-2-15.ai

- (3) Click the Yes button.
- (4) A message appears informing you that data transmission is complete.



F5-2-16.ai

- (5) Click the OK button. This completes the selection of the calibration (validation) method.

5.2.7 Changing Valve/Detector/Temperature Controller Status

Moving the mouse cursor over Stream Valve, V1-8, Det/Det2, or to an area inside the Temperature Control Unit Operation window and clicking the left button allows you to change the ON/OFF status of the valves, detectors, and/or temperature controllers.



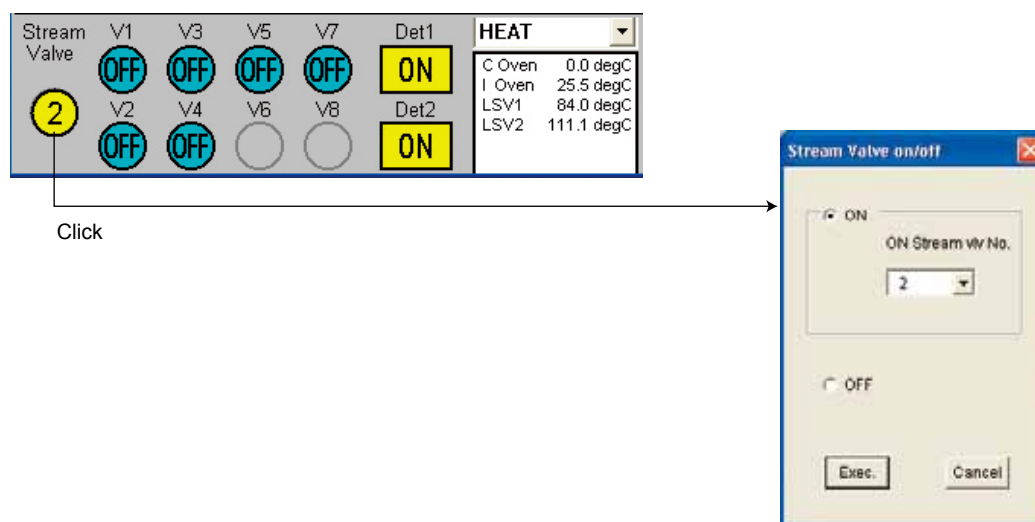
CAUTION

Only level-C users can change the ON/OFF status of the valves, detectors, and/or temperature controllers. The status also needs to be in Manual.

Moreover, the analyzer must be in Remote mode or it will not be possible to make changes.

■ Changing a Stream-switching Valve

- (1) Click on the stream-switching valve indication.
The Stream Switching dialog box appears.

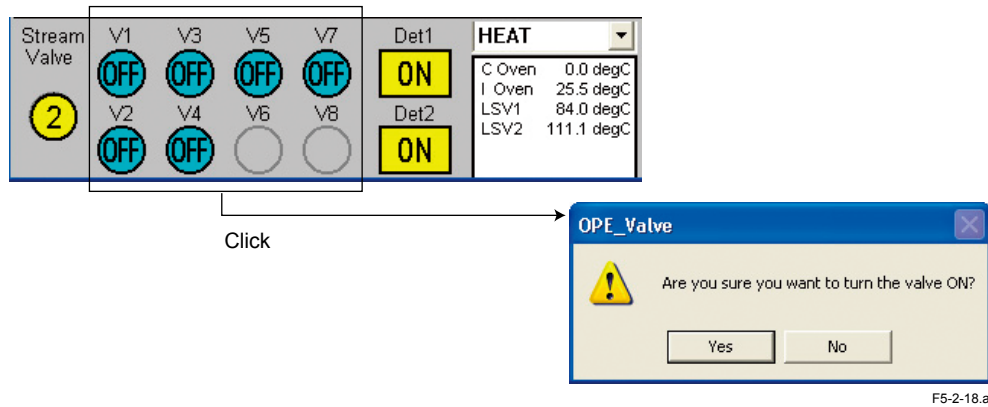


F5-2-17.ai

- (2) To turn ON the stream valve, select the ON radio button and choose the desired stream valve's number; to turn it OFF, select the OFF radio button and click the Execute button.
- (3) The Stream Valve indication changes to the specified stream valve status.

■ ON/OFF Operation of Valves 1 to 8

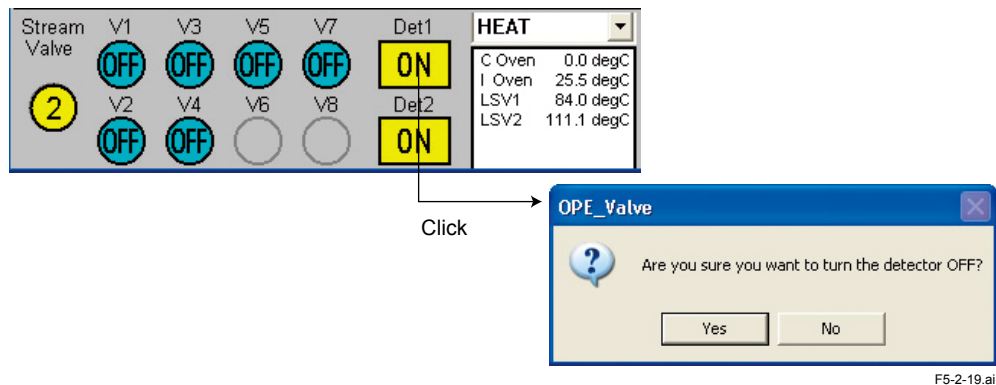
- (1) Click on one of the Valve V1 to V8 indications.
A dialog box appears confirming that you want to change the ON/OFF setting.



- (2) Click the Yes button
The valve status changes to ON or OFF.

■ ON/OFF Operation of Detectors

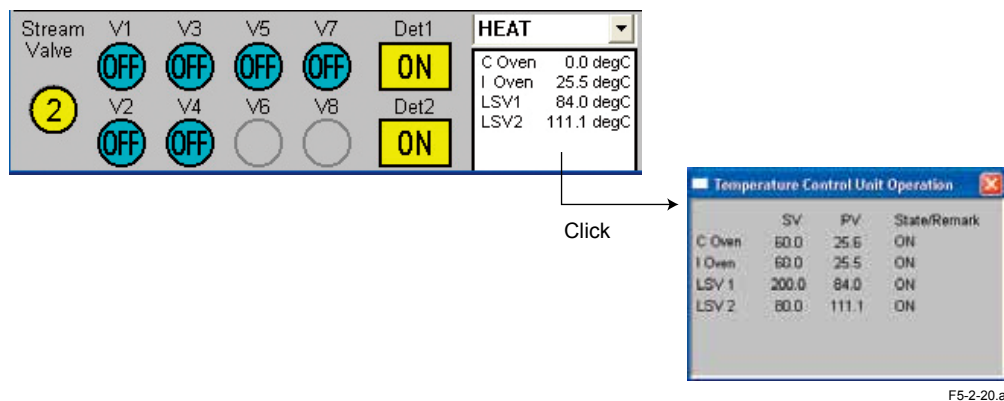
- (1) Click on one of the detector indications.
A dialog box appears confirming that you want to change the ON/OFF setting.



- (2) Click the Yes button.
The detector status changes to ON or OFF.

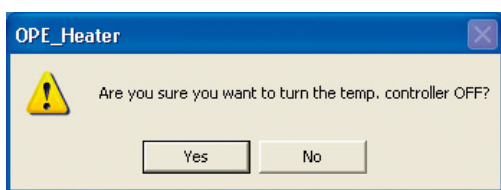
■ ON/OFF Operation of Temperature Controllers

- (1) Click on the temperature controller indication.
The Temperature Control Unit Operation window appears.



- (2) Click the entry corresponding to the temperature controller you want to change in the State/Remark column.

A dialog box appears confirming that you want to change the ON/OFF setting.



F5-2-21.ai

- (3) Click the Yes button

The relevant State/Remark entry changes to ON or OFF.

5.2.8 Changing Range

The range of each peak can be changed using the range table that has been set to the analyzer. This section describes how to change the range.




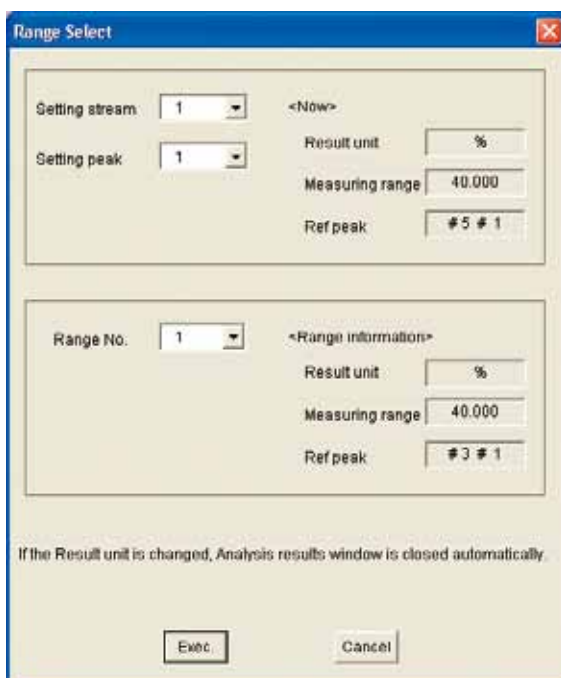
CAUTION

Only level B or C users can change the range.

The analyzer must also be in Remote mode.

■ Changing Range

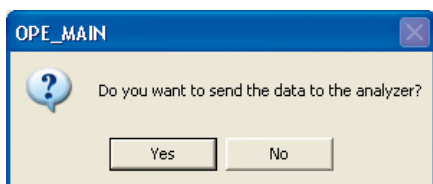
- (1) Click the Range Change Command button .
- (2) The Range Change dialog box appears.



F5-2-22.ai

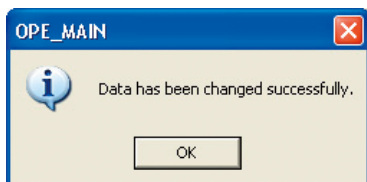
Specifying the stream number, peak number, and range number you wish to change causes the current information of each item to appear.

- (3) Click the Execute button. This causes a confirmation message to appear.



F5-2-23.ai

- (4) Click the Yes button.
- (5) A message box appears informing you of the completion of data transmission.



F5-2-24.ai

- (6) Click the OK button. This completes the range change.

5.2.9 Changing Valve and Peak Information

The ON/OFF timing of valves that has been set to the analyzer can be changed. Individual information (peak name, gate time, etc.) set for each peak can also be changed.

This section describes how to change these items.



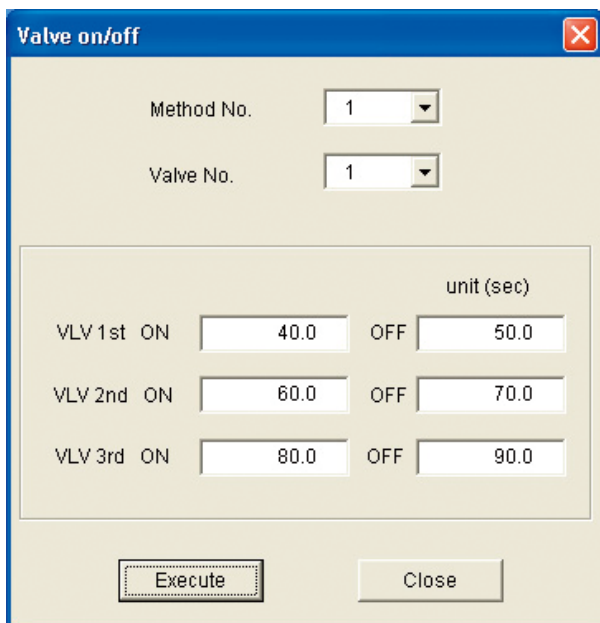
CAUTION

Only level-C users can change the valve and/or peak information.

The analyzer must also be in Remote mode.

■ Changing Valve ON/OFF Setting

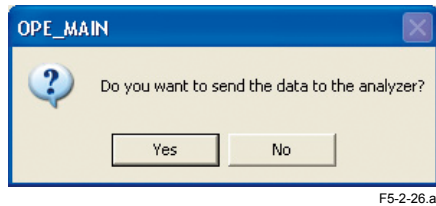
- (1) Click on the Valve command in the Set menu.
- (2) The Valve ON/OFF Setting dialog box appears.



F5-2-25.ai

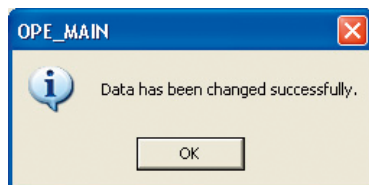
Specifying the valve number of the valve whose ON/OFF setting you wish to change causes the current information to appear.

- (3) Change the valve's set ON/OFF time and click the Send button. Then, a confirmation message appears.



F5-2-26.ai

- (4) Click the Yes button.
- (5) A message box informing you of the completion of data transmission appears.

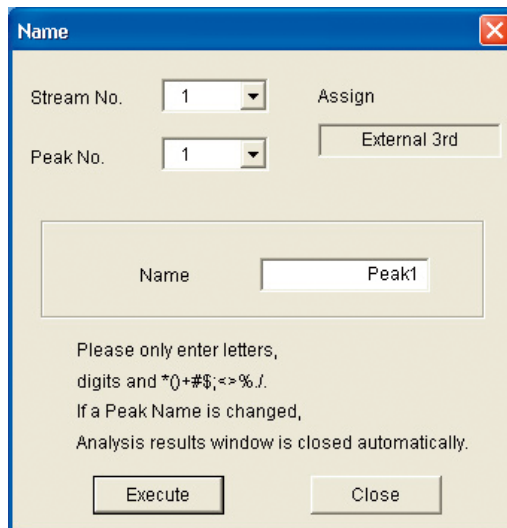


F5-2-27.ai

- (6) Click the OK button. This completes the valve ON/OFF setting change.

■ Changing Individual Peak Setting

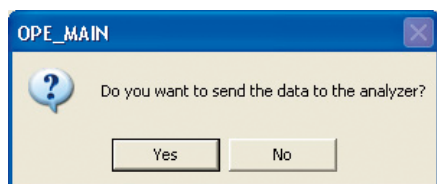
- (1) Click on the Peak command in the Set menu and then click on the command corresponding to the information (such as Peak Name or Gate Time) you wish to change.
- (2) The relevant dialog box appears. (The following shows an example of the Set Peak Name dialog box.)



F5-2-28.ai

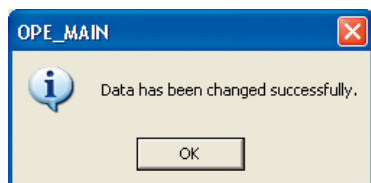
Specifying the stream number and peak number you wish to change causes the current information to appear.

- (3) Change the peak name and click the Send button. A confirmation message appears.



F5-2-29.ai

- (4) Click the Yes button.
- (5) A message box appears informing you of the completion of data transmission.



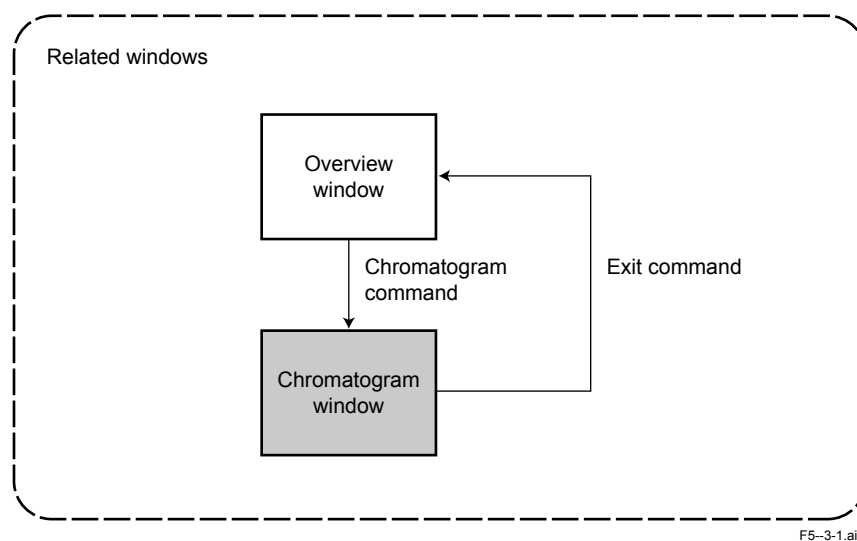
F5-2-30.ai

- (6) Click the OK button. This completes the peak name change.

5.3 Chromatogram Window

The Chromatogram window displays the analyzer's chromatograms in detail. You can load chromatograms that have been saved to a file into ASET for display in this window in addition to the latest chromatograms.

This section describes how to display and exit the Chromatogram window, window configuration, scale change and partial enlargement, and the saving and loading of chromatograms.



F5-3-1.ai

5.3.1 Displaying and Exiting the Chromatogram Window

This section describes how to display and exit the Chromatogram window.

■ Display

There are two ways to display the Chromatogram window from the Analyzer Operation window: a method of displaying it from the menu, and that of displaying it from the chromatogram display section.

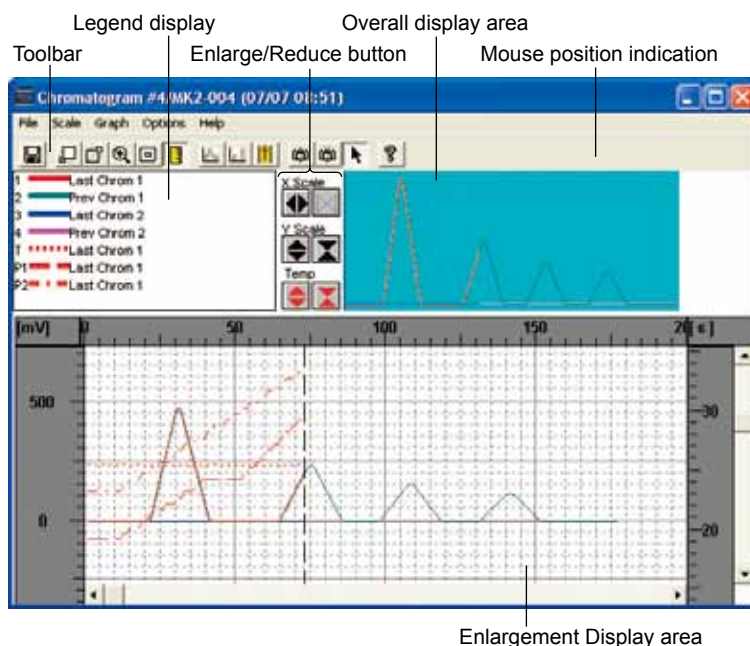
**CAUTION**

Only one Chromatogram window can be displayed at a time.

- **Operation procedure**

Click on the Chromatogram command in the Window menu or double click on the chromatogram display section in the Analyzer Operation window.

The Chromatogram window appears.



F5-3-2.ai

- **Window size and position upon opening**

The window display position and window size upon opening the Chromatogram window are the same as those that had been in effect when it was last closed.

- **Resizing the window size**

Dragging a frame border of the Chromatogram window using the mouse allows you to enlarge or reduce the window size. Note that it is not possible to reduce it smaller than 647 × 448 mm.

■ Exiting

- **Operation procedure**

Click on the Exit command in the File menu with the Chromatogram window activated.

The Chromatogram window closes.

5.3.2 Window Configuration

The Chromatogram window displays chromatograms that are sent from the analyzer in detail.

It allows display of the latest chromatogram, previous chromatograms, chromatograms stored in the analyzer server, and/or chromatograms that have been saved to a file.

It can also display the peak information, gate information, temperature data, and pressure data corresponding to each chromatogram.

In addition, it allows you to save the currently displayed chromatogram in a file.

Dragging a frame border of the Chromatogram window using the mouse allows you to enlarge or reduce the window size. Note that the window cannot be reduced to a size smaller than 647 × 448 mm.

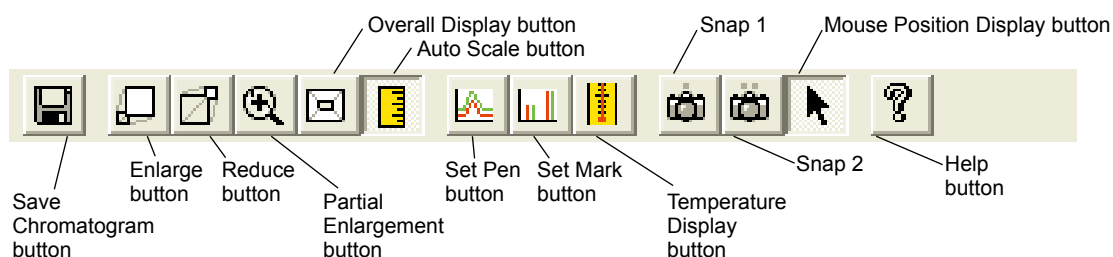
The window display position and window size upon opening the Chromatogram window are the same as those that had been in effect when it was last closed.

■ Toolbar

The toolbar has had frequently used commands registered as buttons.

● Window elements

The toolbar consists of the following buttons:

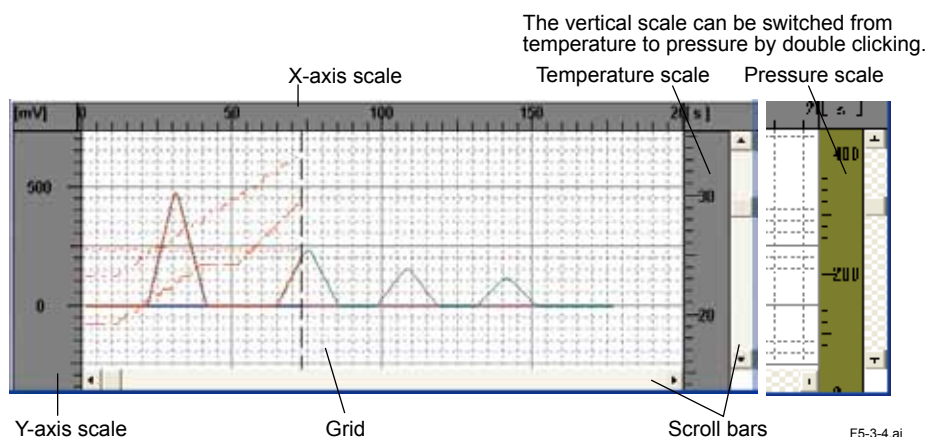


F5-3-3.ai

■ Enlargement Display Area

This area of the Chromatogram window displays chromatogram and temperature.

● Window elements



F5-3-4.ai

● Contents of display

Item	Function
X-axis scale	Represents elapsed time (second).
Y-axis scale	Represents voltage value (mV).
Temperature scale	Represents temperature (°C).
Pressure scale	Represents pressure (kPa).
Scroll bar	Moves chromatogram up and down or sideways to show hidden portions.
Grid	Grid-like auxiliary lines linked with the X-axis and Y-axis scale graduations. The grid can be made visible or invisible by setting its ON/OFF status using the Grid command in the Option menu.

5.3.3 Displaying Chromatogram and Temperature Data

The Chromatogram window can display eight chromatograms and two temperature data.

■ Displaying Chromatograms

The following chromatograms can be displayed:

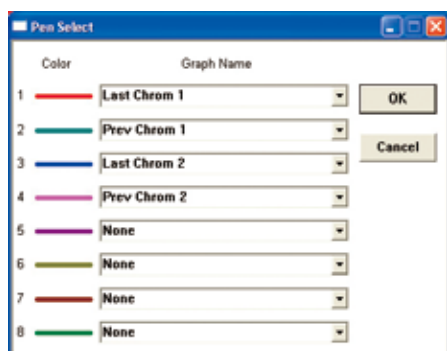
Chromatogram Type	Description
Latest chromatogram	This is the chromatogram currently being measured, which is updated per 1 second. Latest Chromatogram 1 and Latest Chromatogram 2 represent the most recent chromatograms of detectors 1 and 2. The sampling rate is 80 ms.
Previous chromatogram	This is the chromatogram measured previously, which is updated periodically. Previous Chromatogram 1 and Previous Chromatogram 2 represent the previous chromatograms of detectors 1 and 2. The sampling rate is 80 ms.
File chromatogram	This is chromatogram that has been saved to a file.
Differential chromatogram	This is the result of differences determined by comparing two chromatograms that are displayed. Up to two differential chromatograms can be displayed.
History chromatogram	This is a previous chromatogram that has been stored in the analyzer server. The sampling rate is the same as that of the analyzer. History chromatograms for GC1000 Mark II are opened from the server by specifying the analysis start date and time. History Chromatogram 1 and History Chromatogram 2 represent history chromatograms of detectors 1 and 2 respectively. History chromatograms allows acquisition of temperature data and pressure data (the sampling rate is 1 s).

When displaying two differential chromatograms, specify two different chromatograms such as "Differential Chromatogram 1" and "Differential Chromatogram 2." You cannot specify the same chromatograms, for example, "Differential Chromatogram 1" twice.

● For the latest chromatograms and previous chromatograms

- (1) Click on the Set Pen command in the Graph menu or click the  button on the toolbar.

The Set Pen dialog box appears.



F5-3-5.ai

- (2) Choose one of Latest Chromatogram 1, Latest Chromatogram 2, Previous Chromatogram 1, or Previous Chromatogram 2 from the combo box corresponding to the display color used for display, and click the OK button.

The specified chromatogram appears.

The legend display area shows the name of the specified chromatogram.

● For file chromatograms

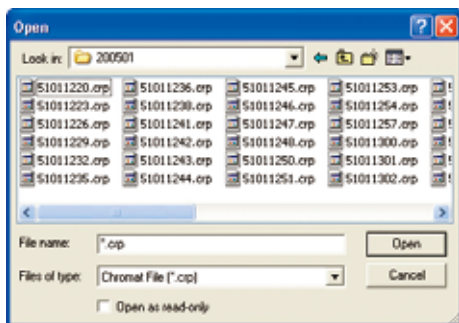
- (1) Click on the Set Pen command in the Graph menu or click the  button on the toolbar.

The Set Pen dialog box appears.

- (2) Choose File Chromatogram from the combo box corresponding to the display color used for display.

A dialog box for specifying the file to display appears.

The extensions of chromatogram files are .chr.



F5-3-6.ai

- (3) Specify the file to display and click the OK button.

This returns you to the dialog box in step (1).

- (4) Click the OK button.

The chromatogram in the specified file appears.

The legend display area shows the file name.

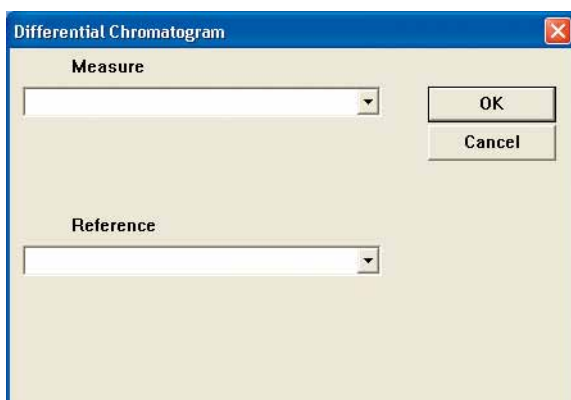
● For differential chromatograms

- (1) Click on the Set Pen command in the Graph menu or click the  button on the toolbar.

The Set Pen dialog box appears.

- (2) Choose Differential Chromatogram 1 or Differential Chromatogram 2 from the combo box corresponding to the display color used for display.

A dialog box for specifying two chromatograms from which differences are to be obtained appears.



F5-3-7.ai

- (3) Choose graphs (selective graph 1, selective graph 2) from which differences are to be obtained from the list box, and then click the OK button.

This returns you to the dialog box in step (1).

The list box displays the names of the chromatograms specified for display; however, they are not shown as “differential chromatogram 1” and “differential chromatogram 2”. Differences are obtained from “selected graph 1” - “selected graph 2.”

- (4) Click the OK button.

The specified differential chromatogram is displayed.

The legend display area shows the graph numbers of chromatograms from which differences are obtained in the form of, for example, "1 - 2".



If differences are obtained from two chromatograms with different analysis cycles, the differential chromatogram is displayed according to the shorter analysis cycle.

Even if the latest chromatograms or previous chromatograms are specified for the targets for obtaining differences, the obtained differential chromatogram cannot be updated at periodic intervals. Differences are obtained from the chromatograms at the instant the OK button is clicked in step (3).

● To erase the chromatogram being displayed

- (1) Click on the Set Pen command in the Graph menu or click the  button on the toolbar.

The Set Pen dialog box appears.

- (2) Choose "None" from the combo box corresponding to the display color to be erased, and click the OK button.

The specified chromatogram will be erased.

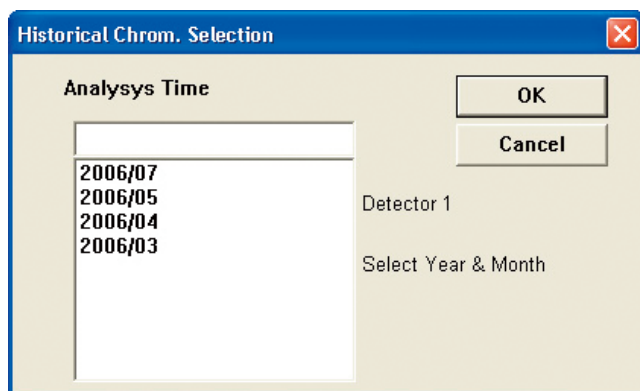
● For history chromatograms

- (1) Click on the Set Pen command in the Graph menu or click the  button on the toolbar.

The Set Pen dialog box appears.

- (2) Choose History Chromatogram 1 or History Chromatogram 2 from the combo box corresponding to the display color used for display, and click the OK button.

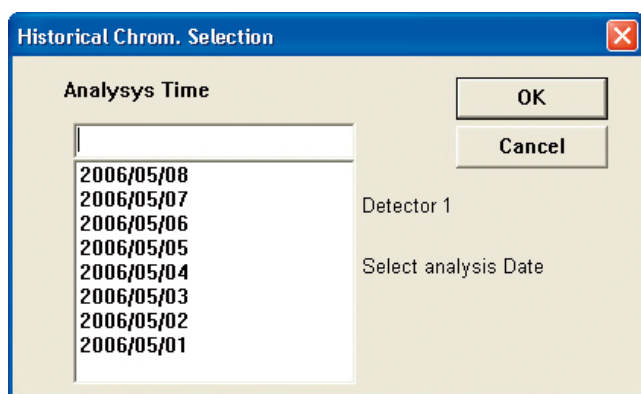
A dialog box for specifying the time frame in which the history chromatogram to display is included appears.



F5-3-8.ai

- (3) Choose the time frame in which the history chromatogram to display is included and click the OK button.

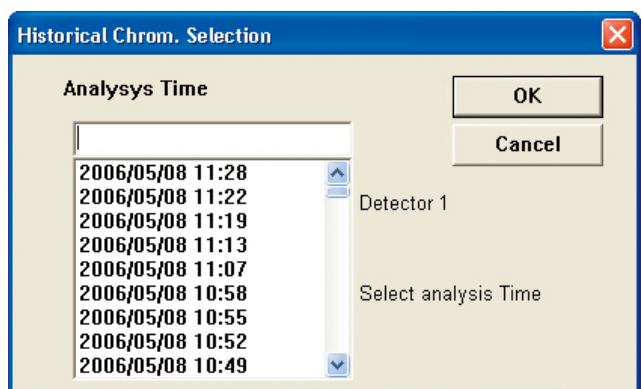
A list of all chromatograms contained in the selected time frame appears.



F5-3-9.ai

- (4) Choose the time frame in which the history chromatogram to display is included and click the OK button.

A list of all chromatograms contained in the selected time frame appears.



F5-3-10.ai

- (5) Choose the chromatogram to be displayed and click the OK button.

This returns you to the dialog box in step (1).

- (6) Click the OK button. The specified chromatogram is displayed.

The legend display area shows the following detector number and measurement date and time.

08/10 16:09 H1

↑ ↑ ↑ ↑ ↑

Month Day Hour Minute

{ H1: history chromatogram 1
H2: history chromatogram 2



If a time earlier than 24 hours prior is specified in step (3), processing may take some time, depending on the amount of data.

■ Setting Marks

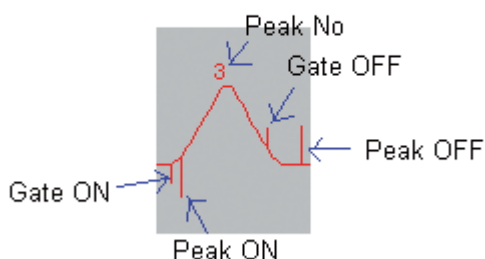
● Types of mark information

You can set whether to display the following mark information for each chromatogram.

Mark Information	Description
Peak No.	Displays a peak number at the peak location in the chromatogram. The Peak Display Position command in the Option menu allows you to specify whether to display the number above or below the chromatogram.
Peak ON/OFF	Indicates the start and end positions of a peak as follows: Start position: A long line facing down End position: A long line facing up
Gate ON/OFF	Indicates the gate ON and OFF positions as follows: ON position: A short line facing down OFF position: A short line facing up

All mark information is indicated in the display color of the target chromatogram.

Sample for Peak/Gate



F5-3-11.ai

Example of Gate Peak Display

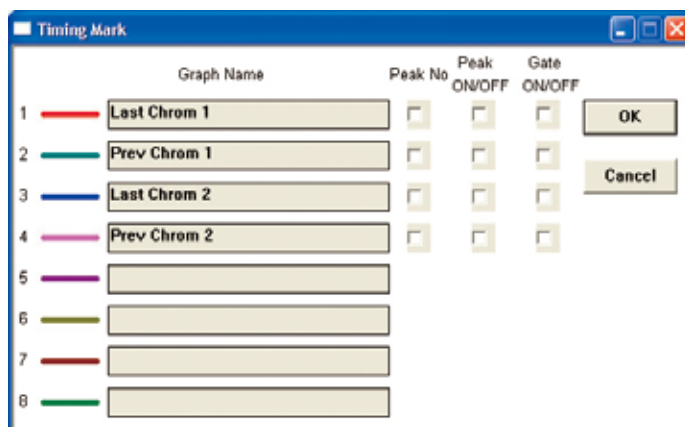
Even though mark information has been set for display, its actual display is as shown below, depending on the chromatogram type:

	Peak No.	Peak ON/OFF	Gate ON/OFF
Latest chromatogram	A	A	A
Previous chromatogram	A	A	A
File chromatogram	B	B	B
History chromatogram	C	A	A
Differential chromatogram	C	C	C

Legend A: displayable, C: not displayed, B: dependent on whether information exists in a file.

● Operation procedure

- (1) Click on the Set Mark command in the Graph menu or click the  button on the toolbar.
The Set Mark dialog box appears.

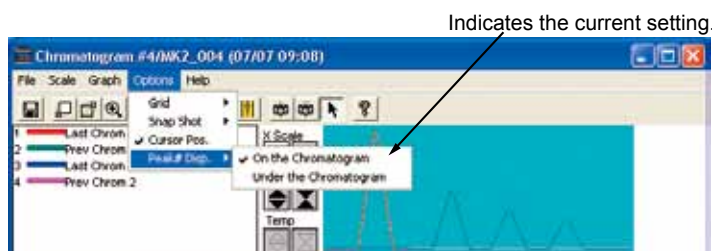


F5-3-12.ai

- (2) Set the provision of mark information display for each chromatogram as follows:
 Checked: Displayed
 Unchecked: Not displayed
- (3) Click the OK button.
 The set mark information is displayed.

● Setting peak number position

- (1) Click on the Peak Display Position command in the Option menu.
 The submenus of the Peak Display Position command appear.



F5-3-13.ai

- (2) Click the Above Graph or Below Graph.
 This causes the peak display position to be defined.

■ Displaying Temperature/Pressure Data


Temperature data corresponding to the specified chromatogram can be displayed in the Enlargement Display area. Temperature data is displayed by dotted lines in the same color as the target chromatogram. Pressure graph 1 is displayed by dashed lines in the same color as the corresponding chromatogram. Pressure graph 2 is displayed by alternate long and short dashed lines in the same color as the corresponding chromatogram. Up to two pressure graphs can be displayed.



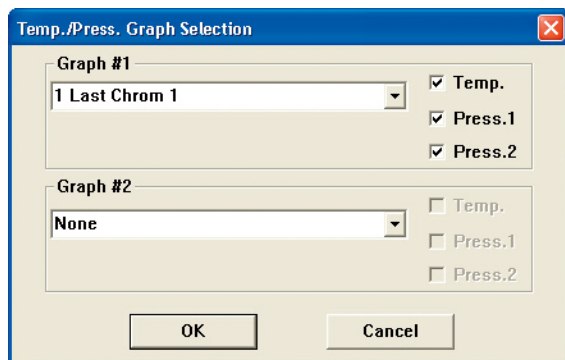
The types of chromatograms that can be displayed together with temperature data are the latest chromatograms, previous chromatograms, and file chromatograms containing either the latest or previous chromatograms.

If a chromatogram displaying temperature data is erased, the corresponding temperature data is also erased automatically.

● Operation procedure

- (1) Click on the Temperature/Pressure Display command in the Graph menu or click the  button on the toolbar.

The Temperature Display dialog box appears.



F5-3-14.ai

- (2) Choose the chromatogram corresponding to the temperature data to be displayed, from the combo box.

The combo box contains the latest chromatograms being displayed, previous chromatograms, and file chromatograms.

To erase temperature data display, choose "None" in the combo box.

- (3) Select the Temperature checkbox.
- (4) Click the OK button.

The temperature data corresponding to the specified chromatogram is displayed. If "None" is selected the temperature data will be erased.

5.3.4 Changing Scales and Scrolling Window

The chromatogram scales consist of three items: X axis (second), Y axis (mV), and temperature (°C). The scales can be adjusted to any size using the menus or the Enlarge/Reduce buttons.

■ Cancelling and Setting Auto-scale

In the Chromatogram window, the scales are automatically adjusted and set so that the entire chromatogram can always be displayed. (This function is called "auto-scale".)



If you change a scale, the auto-scale function will automatically be deactivated.

The following describes how to change the ON/OFF status of the auto-scale function.

● Operation procedure

- (1) To cancel the auto-scale function, click on the Auto-scale command in the Scale menu or click the Auto-scale button on the toolbar.

This deactivates Auto-scale, causing the checkmark to be removed from next to the Auto-scale command and the Auto-scale button to be released.



- (2) To set the auto-scale function, click on the Auto-scale command in the Scale menu or click the Auto-scale button on the toolbar again.

This activates Auto-scale, causing the checkmark to be restored next to the Auto-scale command and the Auto-scale button to be depressed.

■ Changing Scale

● Enlarge/Reduce buttons

The scales change as shown below if the Enlarge/Reduce buttons are clicked.

-  : Reduce the scale.
-  : Enlarge the scale.

Scales	Scale Change
X axis (second)	0.2→0.5→1→2→5→10→20→50→100→200→500→ 50000←20000←10000←5000←2000←1000←
Y axis (mV)	0.1→0.2→0.5→1→2→5→10→20→50→100→200→500→1000
Temperature (°C)	10→50→100→200

The chromatograms and temperature data use the scales in common.

■ Scrolling through Window

If part of a chromatogram cannot be displayed in the window due to enlargement, etc., you can scroll through the window to view hidden portions.

● Method 1

Click the , , , and/or  buttons on the scroll bars.

The chromatogram moves one division in the direction of the arrow.

● Method 2

Drag the  button on a scroll bar.

The chromatogram moves proportionately in the direction the button is dragged.

■ Making Grid Visible/Invisible in the Chromatogram Window

You can select whether to make the grid (grid lines) visible/invisible in the Enlargement Display area on the Chromatogram window.

The grid is displayed if you choose Visible or is hidden if you choose Erase.

Note:

By default, "Visible" is selected for the grid.

5.3.5 Enlarging/Reducing and Temporarily Saving Chromatograms

The Enlargement Display area can enlarge part of a chromatogram to display that area in detail. Saving an enlarged portion temporarily allows you to recall and view it after updating the window.

This section describes how to do this using the buttons on the toolbar. The same result can be achieved using the corresponding commands in the menu.

■ Enlargement

● Operation procedure

Click on the Zoom in button () on the toolbar.

The scales for the x and y axes are enlarged by one division respectively based on the center of the Enlargement Display area.

- You can also achieve the same results using the Zoom in command in the Scale menu.

■ Reduction

● Operation procedure


Click on the Zoom out button () on the toolbar.

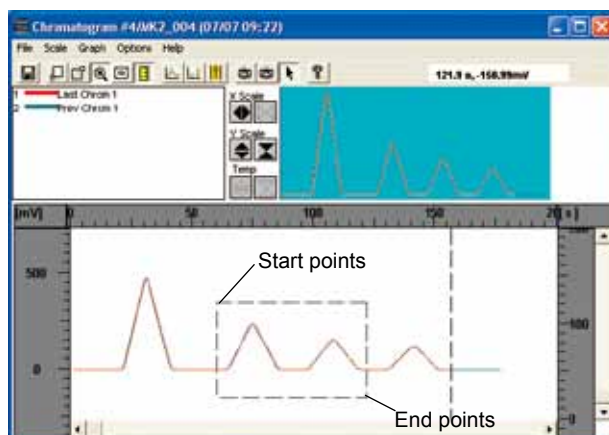
The scales for the x and y axes are reduced by one division respectively based on the center of the Enlargement Display area.

- You can also achieve the same results using the Zoom out command in the Scale menu.

■ Partial Enlargement

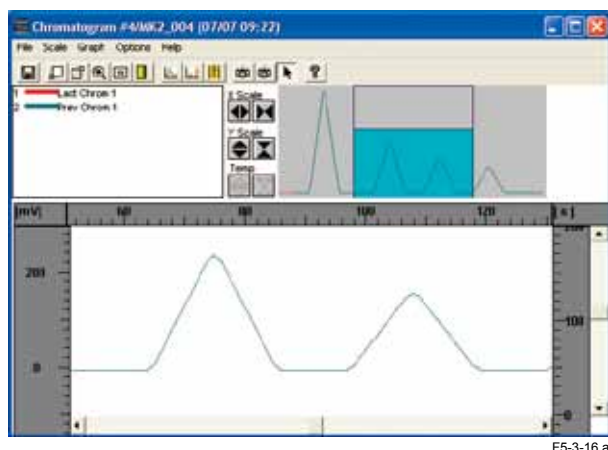
● Operation procedure

- (1) Click on the Partial Zoom button () on the toolbar.
- (2) Drag the start and end points of the area you wish to enlarge on the Overall Display area or the Enlargement Display area.



F5-3-15.ai

The specified area is enlarged and fills the window.




- Selecting the Partial Zoom in button automatically deactivates the auto-scale function.
- You can also achieve the same results using the Partial Enlargement command in the [Scale] menu.
- The enlargement display range specified using the partial enlargement feature and the range actually displayed in the Enlargement Display area may differ from each other due to limitations of the program.

■ Temporary Saving (Snapshot)

Temporarily saving the enlarged window

● Operation procedure

- (1) Click on the Snap 1 button () on the toolbar.
The Snap 1 button lights up in red, and the chromatogram being display is temporarily saved to memory.
 - (2) If you want to see the detailed display again after returning to the original display, click the Snap 1 button with its red lamp lit.
The chromatogram saved in Snap 1 is redisplayed.
 - (3) To erase the temporarily saved chromatogram, click on the Clear command in the Option menu.
The chromatogram is erased and the red lamp of the Snap 1 button goes off.
- Two types of chromatograms can temporarily be saved in Snap 1 and Snap 2.
 - You can also achieve the same result using the Snapshot command in the Option menu.
 - Snap-1 and Snap-2 data are automatically erased with every analysis cycle.

■ Overall display

● Operation procedure

Click on the Full Display button () on the toolbar.

The position and scales of the chromatogram are recalculated, and you are returned to the original window.

- You can also achieve the same results using the Overall Display command in the Scale menu.


5.3.6 Saving Chromatogram

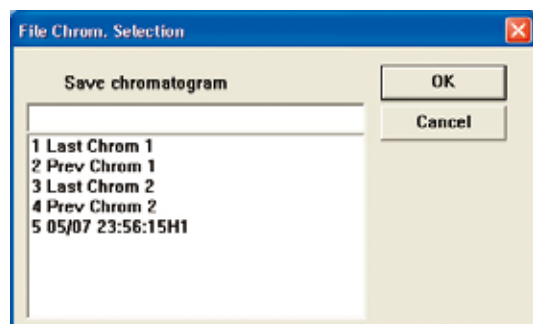
The Chromatogram window allows you to save a currently displayed chromatogram in a file.

■ Saving

● Saving chromatograms

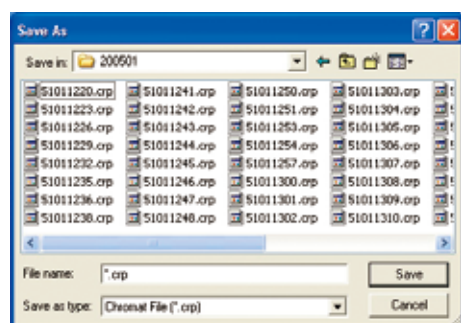
In saving chromatograms, the currently displayed chromatogram is saved to the hard disk on the PC.

- (1) Click on the Save Chromatogram button () on the toolbar. A dialog box for selecting the chromatogram to save appears.



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- (2) Select the chromatogram to save and click the OK button.



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- (3) Enter a file name in front of the file extension “.chr” in the File Name field in the displayed dialog box, and click the OK button. The selected chromatogram data is saved to the specified file.

5.3.7 The off-line chromatogram display window

When double-clicking the chromatogram icon in the icon folder of the Engineering Terminal on the desk top, the chromatogram display window only can be started. This function is for indicating the chromatogram at off-line.

The chromatograms to be indicated are File chromatogram and Differential chromatogram.



CAUTION

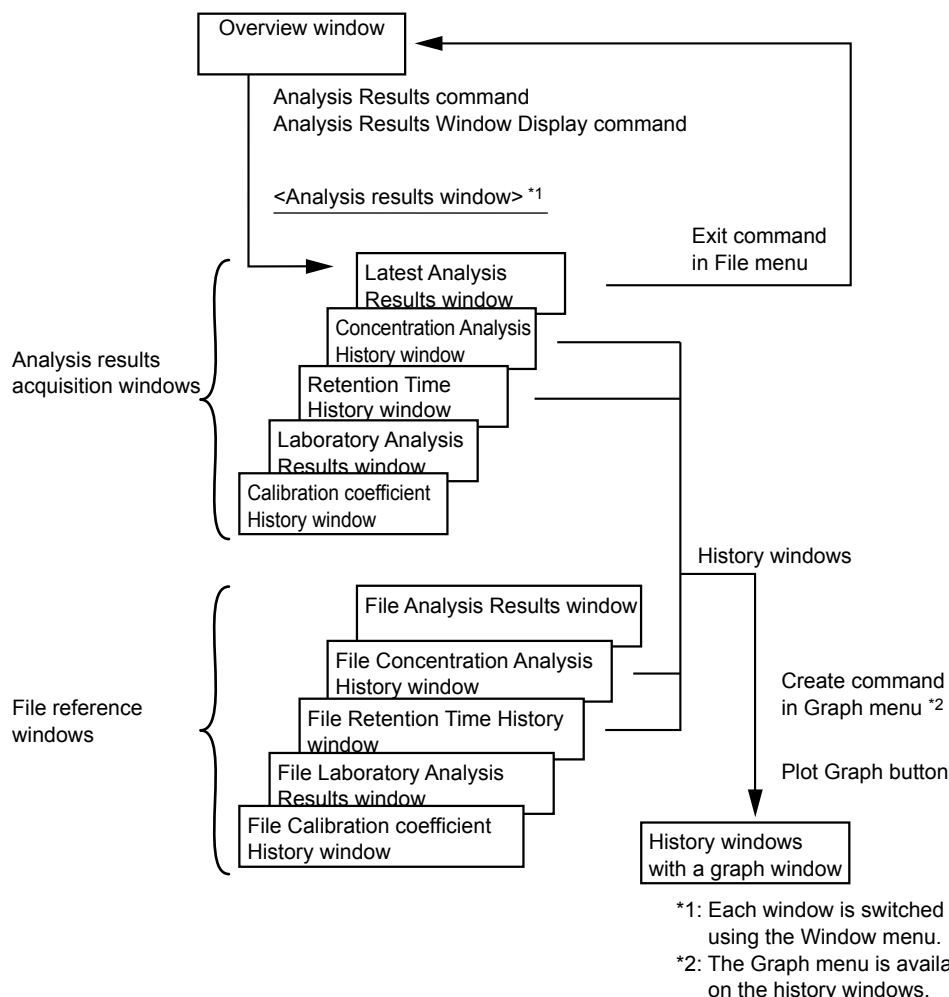
- In case ASET is operated, this function can not be used.
- The multiple chromatogram displays can not be started.

5.4 Analysis Results Windows

The analysis results windows display data that has been analyzed by the analyzer. There are ten windows: five analysis results acquisition windows in which the analysis results are accumulated, and five file reference windows in which reference is made by opening related files. A graph window can also be merged into windows that display histories.

This chapter describes how to display and exit the analysis results windows, the types and configuration of the windows, switching of window display, data saving and reading, data modification and re-saving, conversion of history data to a graph, and resetting history data.

Related windows



5.4.1 Displaying and Exiting the Analysis Results Windows

When you open the analysis results window, the Latest Analysis Results window appears.



CAUTION

Only one analysis results window can be displayed at a time.

■ Displaying (the Latest Analysis Results Window)

Specify an analyzer ID in the Overview window, and then command the analysis results window to be displayed. When an analysis results window is opened from the Overview window, the Latest Analysis Results window appears.




SEE ALSO

Section 3.6, "Selecting Analyzer" for specifying an analyzer ID

● Operation procedure

Click on the Analysis Results command in the Window menu.

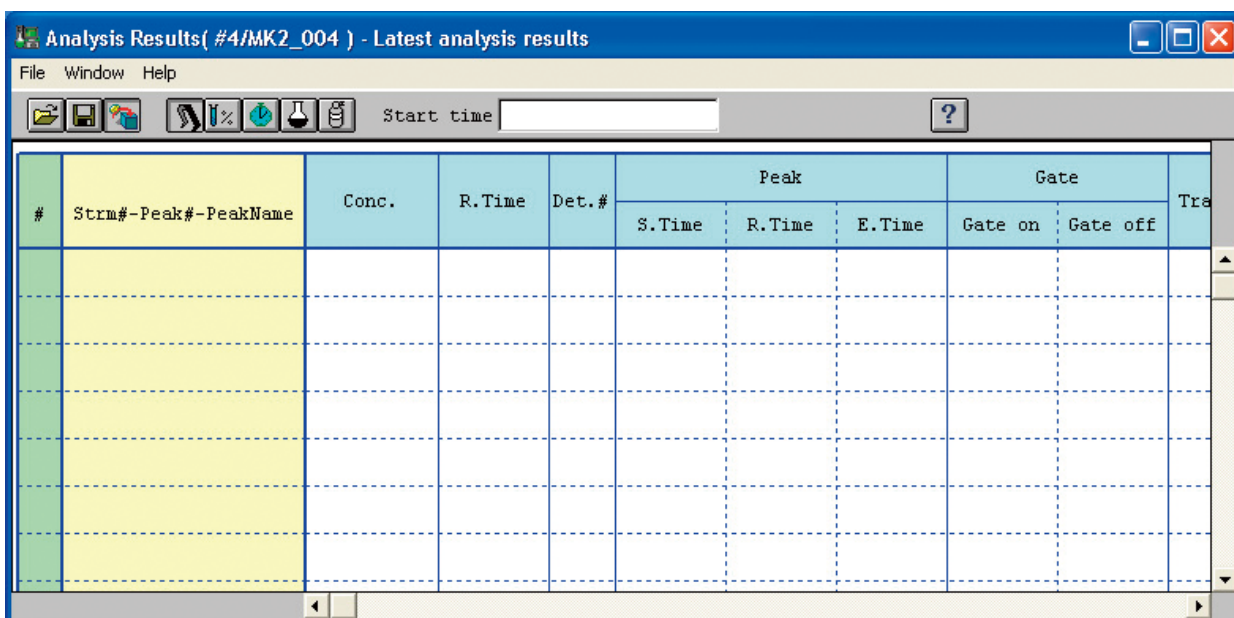
- This operation can also be conducted by clicking the Analysis Results Window Display button () on the toolbar.

The Latest Analysis Results window is then displayed.



TIP

If the analysis results windows are reduced to icons and registered for the ASET group, they can be opened separately. However, it should be noted that the displayable analysis results when a registered analysis results window is opened without activating the Overview window are limited to the range of data stored in the PC.



#	Strm#-Peak#-PeakName	Conc.	R.Time	Det.#	Peak			Gate		Tra
					S.Time	R.Time	E.Time	Gate on	Gate off	

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■ Exiting

● Operation procedure

Click on the Exit command in the File menu.

The Analysis Results window is then closed.

5.4.2 Window Types and Configuration

The analysis results windows consist of analysis results acquisition windows (Latest Analysis Results, Concentration Analysis History, Retention Time History, Laboratory Analysis Results and Calibration coefficient History) and file reference windows (File Analysis Results, File Concentration Analysis History, File Retention Time History, File Laboratory Analysis Results and File Calibration coefficient History).

This section outlines the configuration and display contents of each of these windows.

■ Latest Analysis Results Window

The Latest Analysis Results window displays the latest analysis results that have been obtained in Process mode by the analyzer, focusing on the stream for which analysis was made. The latest analysis results are updated each time analysis by the analyzer is complete. If you wish to retain current data, save the window display so that you can refer to it freely later.



SEE ALSO

- Display contents below for display data

● Window configuration

The following shows the configuration of the Latest Analysis Results window.

#	Stream#-Peak#-PeakName	Conc.	R.Time	Det.#	Peak			Gate		Tra
					S.Time	R.Time	E.Time	Gate on	Gate off	
11	02-001-Peak1 (%)	60.002	30.7	1	19.2	30.7	45.1	19.1	45.0	M
12	02-002-CH4 (%)	38.963	74.5	1	63.5	74.5	87.1	60.0	87.0	M
13	02-003-C2H6 (%)	19.999	107.7	1	96.6	107.7	120.1	95.0	120.0	M
14	02-004-C3H8 (%)	10.001	140.5	1	129.7	140.5	154.1	128.0	154.0	M

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The remaining portions can be brought into view by using the scroll bar.



CAUTION

When an operation pattern or peak value setting is changed while an analysis results window is being displayed:

(First close the analysis results window by executing the Exit command in the File menu, and exit the Engineering Terminals. Then restart the Engineering Terminals and re-open the analysis results window. Continuing operations without restarting all the Engineering Terminals may result in incorrect data display.)

● Display contents

The following lists the display contents for each item.

Item	Display Contents
Analysis Start Time	Displays the date and time at which analysis of display data was started.
#	Indicates the absolute numbers of peaks (serial numbers for all peaks of all tasks): 1 to 255.
Stream# - Peak# - Peak Name	Indicates the peaks of a stream for which the latest analysis has been made, in the ascending order of peak numbers (order of assignment). A stream number, peak number, and peak name are connected and indicated in this order using "-", and the concentration unit (% , ppm, or no unit) of that peak is indicated in parentheses at the end.
Concentration	Indicates concentration for each peak (with the unit indicated after the peak name).
Retention Time	Indicates Retention time (second) for each peak.
Det. #	Indicates detector number (1 or 2) for each peak.
Peak Peak start/Retention/ Peak end	Indicates peak process start time/Retention time/end time (second) for each peak.
Gate Gate start/Gate end	Indicates gate start time/end time (second) for each peak.
Pursuit	Indicates the peak pursuing status for each peak as "standard", "pursuit", or "none".
Peak Level Start/Height/End	Displays the peak start level/top level/end level (mV) for each peak.
Area	Indicates the integral value of the peak level (mV second) for each peak.
Shape	Indicates the peak data process status in two-digit letters for each peak. It displays "P" for tangent correction re-setting or "H" for the perpendicular method.
Half-value Width	Indicates a half-value width (second) for each peak.
Tailing Constant	Indicates a tailing constant for each peak.
Variation Coefficient	Indicates a concentration variation coefficient for each peak.
Method	Indicates a concentration computation method for each peak, selecting the applicable concentration computation method from "corrected area," "calibration," "external third," "external linear," "indirect method." (If no applicable method is found, "???????" is indicated.)

* Note: If commas (,) are used in stream names or peak names, the features of the analysis results windows may not function properly.

■ Concentration Analysis History Window

The Concentration Analysis History window is provided to observe temporal changes in concentration analysis data analyzed in the Process mode by the analyzer up to the current instant. It can recall data for 250 instances in a maximum of one year that has been stored in the analyzer server.

It displays all the peaks, each of which has been assigned a number upon the analysis results window being opened, and columns in which no peak concentration was measured at the time concerned are left blank.

Portions of data hidden from view in the window can be seen by using the scroll bar.

● Window configuration

The following shows the configuration of the Concentration Analysis History window.

#	Stream-Peak-FeedName	2004/07/07 08:25	2004/07/07 09:25	2004/07/07 10:15	2004/07/07 11:15	2004/07/07 12:15	2004/07/07 13:15	2004/07/07 14:15
1	01-001-Feed1 (%)							
2	01-002-CH1 (%)							
3	01-003-CH2 (%)							
4	01-004-CH3 (%)							
5	01-005-CH4 (%)							
6	01-006-CH5 (%)							
7	01-007-CH6 (ppm)							
8	01-008-CH7 (ppm)							
9	01-009- (%)							
10	01-010- (%)							
11	02-001-Feed1 (%)	89.888		89.002		80.000		80.000
12	02-002-CH1 (%)	19.949		19.999		19.999		19.999
13	02-003-CH2 (%)	19.999		19.999		19.999		19.999
14	02-004-CH3 (%)	19.999		19.999		19.999		19.999
15	02-005-CH4 (%)							
16	02-006-CH5 (%)							

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● Display contents

The following lists the display contents for each item.

Item	Display Contents
Analysis Start Time	Displays the date and time at which analysis of the display data was started
#	Indicates the absolute numbers of peaks (serial numbers for all peaks of all tasks): 1 to 255.
Stream# - Peak# - Peak Name	Indicates peaks of a stream for which the latest analysis has been made, in an ascending order of stream numbers and of peak numbers (order of assignment). A stream number, peak number, and peak name are connected and indicated in this order using "-", and the concentration unit (% , ppm, or no unit) of that peak is indicated in parentheses at the end.
Date/Time	Indicates the date (year/month/day) and time (hour: minute) at which analysis was started, for each analysis cycle (250 times maximum). If time data exceeds 250, the oldest data is discarded, allowing the entry of new data.
Concentration	Indicates concentration for each peak (with the unit indicated after the peak name).

*Note: If commas (,) are used in stream names or peak names, the features of the analysis results windows may not function properly.

■ Retention Time History Window

The Retention Time History window is intended to observe temporal changes in Retention-time data analyzed in the Process mode by the analyzer up to the current instant. It can recall data for a maximum of one year or that of 250 instances that has been stored in the analyzer server.

It displays all peaks, each of which has been assigned a number upon the analysis results window being opened, and columns in which no peak concentration was measured at the time concerned are left blank.

Portions of data hidden from view in the window can be seen using the scroll bar.

● Window configuration

The following shows the configuration of the Retention Time History window.

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● Display contents

The following lists the display contents for each item.

Item	Display Contents
#	Indicates the absolute numbers of peaks (serial numbers for all peaks of all tasks): 1 to 255.
Stream# - Peak# - Peak Name	Indicates peaks of a stream for which the latest analysis has been made, in an ascending order of stream numbers and of peak numbers (order of assignment). A stream number, peak number, and peak name are connected and indicated in this order using "-", and the concentration unit (% , ppm, or no unit) of that peak is indicated in parentheses at the end.
Date/Time	Indicates the date (year/month/day) and time (hour: minute) at which analysis was started, for each analysis cycle (250 times maximum). If time data exceeds 250, the oldest data is discarded, allowing the entry of new data.
Retention Time	Indicates Retention time (second) for each peak.

■ Laboratory Analysis Results Window

The Laboratory Analysis Results window displays the latest laboratory analysis results obtained in the Lab (laboratory) mode by the analyzer in the order in which the peaks have been detected.

The laboratory analysis results are updated each time analysis by the analyzer is finished. If you wish to retain current data, save the window display so that you can freely refer to it later.



SEE ALSO

- Display contents below for display data

● Window configuration

The following shows the configuration of the Laboratory Analysis Results window.

#	Conc.	R.Time	Det.#	Peak			Peak level		
				S.Time	R.Time	E.Time	S.Level	T.Level	E.Level
1	64.9657	43.7	1	33.5	43.7	54.9	-3.245	479.070	-3.249
2	34.4554	87.5	1	76.5	87.5	98.8	-3.051	241.193	-3.264
3	0.0126	110.2	1	109.6	110.2	110.2	-3.245	0.452	1.252
4	0.3746	120.1	1	110.3	120.1	120.2	1.250	0.622	153.218
5	0.0246	120.7	1	120.2	120.7	121.2	154.207	3.795	153.225
6	0.0111	143.2	1	142.7	143.2	143.3	-3.252	0.988	1.244
7	0.0280	145.4	1	143.7	145.4	145.5	1.261	1.015	23.317
8	0.0670	150.0	1	145.5	150.0	150.1	24.634	0.251	81.901
9	0.0152	150.7	1	150.1	150.7	150.8	81.729	0.583	90.581
10	0.0296	152.5	1	150.8	152.5	152.5	91.660	1.038	117.105
11	0.0141	153.4	1	152.8	153.4	153.5	113.102	0.716	117.554

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Portions of data hidden from view in the window can be seen using the scroll bar.

● Display contents

The following lists the display contents for each item.

Item	Display Contents
Analysis Start Time	Displays the date and time at which analysis of the display data was started.
#	Indicates the numbers of the order in which the peaks have been detected: 1 to 255.
Concentration	Indicates concentration for each peak (with the unit indicated after the peak name).
Retention Time	Indicates Retention time (second) for each peak.
Det. #	Indicates detector number (1 or 2) for each peak.
Peak Peak start/ Retention/ Peak end	Indicates peak process start time/Retention time/end time (second) for each peak.
Peak Level Start/Height/End	Displays the peak start level/top level/end level (mV) for each peak.
Area	Indicates the integral value of the peak level (mV second) for each peak.
Shape	Indicates the peak data process status in two-digit letters for each peak. It displays "P" for tangent correction re-setting or "H" for the perpendicular method.
Half-value Width	Indicates a half-value width (second) for each peak.
Tailing Constant	Indicates a tailing constant for each peak.

■ Calibration Coefficient History Window

The Calibration Coefficient History window is intended to reference temporal changes in calibration coefficient data analyzed by the analyzer up to the current instant. It can recall past data stored in the analyzer server at any time using the Open History command in the File menu. Moreover, you can select past calibration coefficient data that the analyzer server has and display it from the time concerned.

A maximum of 250 instances of calibration coefficient data that has been acquired up to the current instant can be displayed at once as to all streams. (Columns in which no peak concentration was measured at the time concerned are left blank).

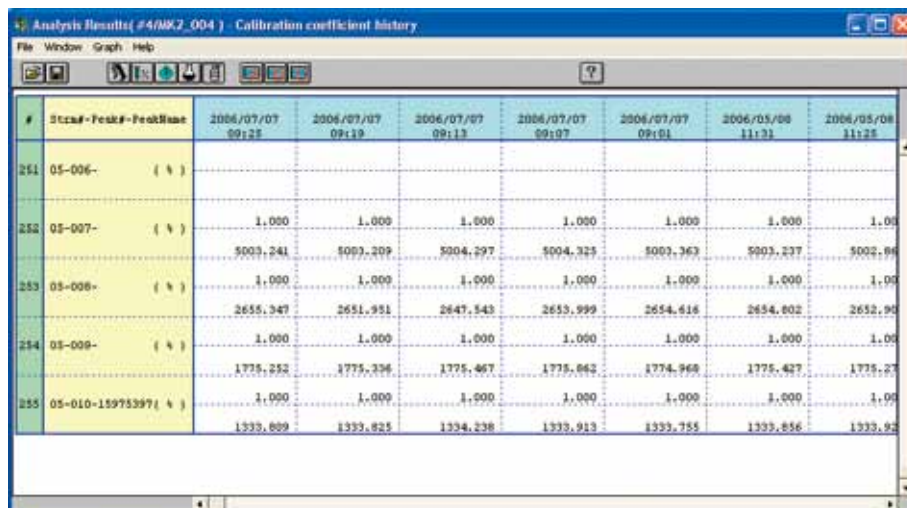
CAUTION

If peak configuration or the total number of peak number assignments is modified while the analysis results window is activated, re-establish individual connection with the analyzer to re-acquire the database from the analyzer. Continuing to perform operations without re-establishing individual connection with the analyzer may cause added or modified data to be improperly displayed in the window.

- Data in the window can be converted to a graph using the Create command in the Graph menu. (Only calibration coefficient data can be turned into a graph; no standard area data can be made into a graph.)

● Window configuration

The following shows the configuration of the Calibration Coefficient History window.



#	Stream # - Peak # - Peak Name	2006/07/07 09:25	2006/07/07 09:19	2006/07/07 09:13	2006/07/07 09:07	2006/07/07 09:01	2006/05/08 11:31	2006/05/08 11:25
251	05-006- (%)							
252	05-007- (%)	1.000	1.000	1.000	1.000	1.000	1.000	1.000
		5003.241	5003.209	5004.297	5004.325	5003.363	5003.237	5002.846
253	05-008- (%)	1.000	1.000	1.000	1.000	1.000	1.000	1.000
		2655.347	2651.951	2647.543	2653.999	2654.616	2654.602	2652.900
254	05-009- (%)	1.000	1.000	1.000	1.000	1.000	1.000	1.000
		1775.252	1775.336	1775.467	1775.642	1774.968	1775.427	1775.270
255	05-010-15975397(%)	1.000	1.000	1.000	1.000	1.000	1.000	1.000
		1333.609	1333.625	1334.236	1333.913	1333.755	1333.856	1333.920

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● Display contents

The following lists the display contents for each item.

Item	Display Contents
#	Indicates the absolute numbers of peaks (serial numbers for all peaks of all tasks): 1 to 255.
Stream # - Peak # - Peak Name	Indicates all peaks that have been assigned numbers in the analyzer, in an ascending order of stream numbers and of peak numbers (order of assignment). A stream number, peak number, and peak name are connected and indicated in this order using "-", and the concentration unit (% , ppm, or no unit) of that peak is indicated in parentheses at the end.
Date/Time	Indicates the date (year/month/day) and time (hour:minute) at which analysis was started, for each analysis cycle (250 times maximum).
Calibration Coefficient	Indicates the calibration coefficient for each peak in the upper part of the Data Display area.
Standard Area	Indicates the standard area for each peak in the lower part of the Data Display area.

■ File Analysis Results Window

The File Analysis Results window is a window in which data of the Latest Analysis Results window that has been saved to a file is recalled for reference. It also allows you to select and display the past analysis results stored in the analyzer server.

The opened file name is indicated in the title bar (see the window classification and window title display).

The contents displayed in the window are identical to those of the Latest Analysis Results window.



SEE ALSO

- Latest Analysis Results Window for the display contents

■ File Concentration Analysis History Window

The File Concentration Analysis History window is a window in which data of the Concentration Analysis History window that has been saved to a file is recalled for reference. It also allows you to select and display the past analysis results stored in the analyzer server.

The opened file name is indicated in the title bar (see the window classification and window title display).

The contents displayed in the window are identical to those of the Concentration Analysis History window.



SEE ALSO

- Concentration Analysis History Window for the display contents

■ File Retention Time History Window

The File Retention Time History window is a window in which data of the Retention Time History window that has been saved to a file is recalled for reference. It also allows you to select and display the past analysis results stored in the analyzer server.

The opened file name is indicated in the title bar (see the window classification and window title display).

The contents displayed in the window are identical to those of the Retention Time History window.



SEE ALSO

- Retention Time History Window for the display contents

■ File Laboratory Analysis Results Window

The File Laboratory Analysis Results window is a window in which data of the Laboratory Analysis Results window that has been saved to a file is recalled for reference. (You cannot recall other analysis results acquisition windows.)

The contents displayed in the window are identical to those of the Laboratory Analysis Results window.



SEE ALSO

- Laboratory Analysis Results Window for the display contents

■ File Calibration Coefficient History Window

The File Calibration Coefficient History window is a window in which data of the Calibration Coefficient History window that has been saved to a file is recalled for reference. (You cannot recall other analysis results acquisition windows.)

The contents displayed in the window are identical to those of the Calibration Coefficient History window.



SEE ALSO

- Calibration Coefficient History Window for the display contents

5.4.3 Switching Window Display

In the analysis results window, only one window can be displayed at a time. If you wish to display another window, switch the current window to the desired one. Note that only a graph window that has been produced in a history window (Concentration Analysis History, Calibration coefficient History, Retention Time History, File Concentration Analysis History, or File Retention Time History or File Calibration coefficient History) can be displayed simultaneously with the history window, or the data source of the graph window.



Display of a graph window

- A graph window, produced by executing the Create command in the Graph menu while a history window is being displayed, is displayed concurrently with the history window, or the data source of the graph window. If the history window is switched to another, the graph window that was displayed in the same frame will also be hidden accordingly. However, when the history window concerned is re-displayed, the graph window is also brought back to display.

■ Window Menu

The Window menu is used to switch to a window to display. Choosing the window name you wish to display in this menu allows that window to appear.

Note that the currently displayed window(s) has a checkmark (✓) added to the front of its name in the menu.


5.4.4 Saving and Reading Data

Data of the analysis results acquisition windows (Latest Analysis Results, Concentration Analysis History, Retention Time History, Laboratory Analysis Results and Calibration coefficient History) are updated each time an analysis is completed. If these data are saved to a file, data up to when it was saved can be freely referred to later by recalling it in the relevant file reference window (File Analysis Results, File Concentration Analysis History, File Retention Time History, File Laboratory Analysis Results or File Calibration coefficient History).

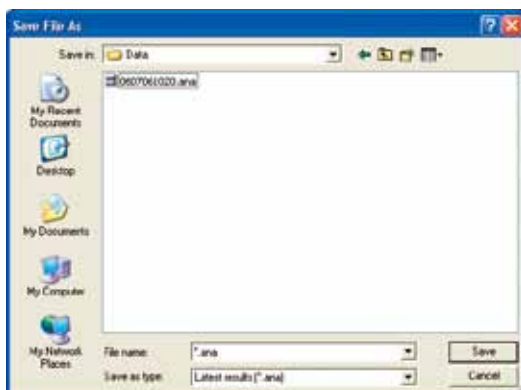
■ Saving (an Analysis Result Acquisition Window)

● Operation procedure

- (1) Display an analysis results acquisition window that you wish to save and click the Save command in the File menu.

- This operation can also be conducted by clicking the  button on the toolbar.

A dialog box for entering the storage destination appears.



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- (2) Select the drive name and directory name, enter the file name in front of the extension, and then click the OK button.

The data in the window will be written to and saved to the file.



TIP

Extension

- An extension affixed to a file name when it is saved is classified according to the window type as shown below. The window types can be identified by these extensions.

Latest analysis results:	.ana
Concentration analysis history:	.cnc
Retention time history:	.rtm
Laboratory analysis results:	.lab
Calibration coefficient History:	.cef

Saving format

- A file to be saved is in the text format (separated by commas (,)). Files in this format can be read by general applications as well as being read in a file reference window within the analysis results windows.
- Saved files cannot be displayed. If you wish to reference a saved file, navigate to the relevant file reference window and then read it.

■ Reading (Opening History Data)


In the Concentration Analysis History window, Retention Time History window or Calibration coefficient History window, you can read and display history data for 250 instances in a maximum of one past year that has been stored in the analyzer server.

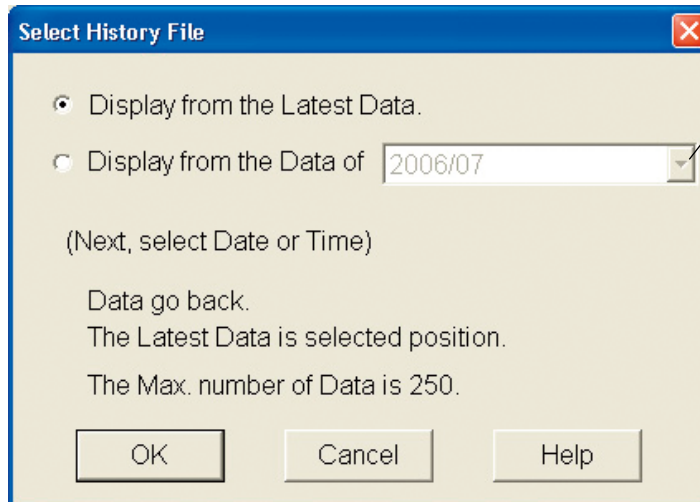


CAUTION

History data is shared among the Concentration Analysis History window, the Retention Time History window and Calibration coefficient History window; if history data is read in either window, the data contents in the other window also change accordingly.

● Operation procedure

- (1) Open the Concentration Analysis History window, Retention Time History window or Calibration coefficient History window and click on the Open History command in the File menu.
 - This operation can also be conducted by clicking the  button on the toolbar.
- A dialog box for specifying the latest history date among the history data to read appears.



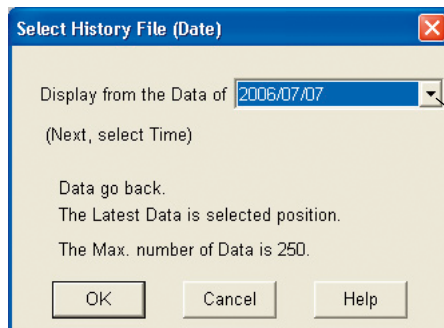
Clicking the arrow button causes the latest to oldest file-saving dates stored in the analyzer server to appear in descending order, allowing you to choose the desired date. The default displays the previously specified date.

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- (2) Specify the latest date of history data you wish to read and click the OK button.

If you select the “Display from Latest Data” radio button, the relevant history data is immediately read and displayed.

If you specify the date of history data to read, a dialog box to further specify the time of day appears.

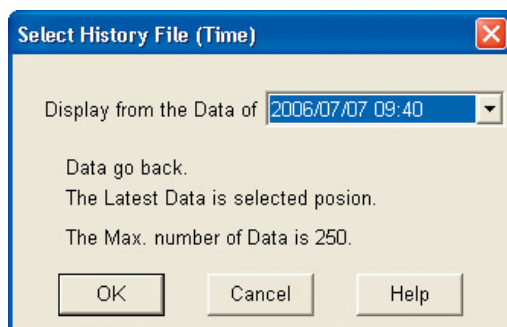


Clicking the arrow button causes the time-of-day data stored in the specified day or month file to appear in descending order, allowing you to choose the desired time of day.

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- (3) Specify the latest time-of-day of the history data you wish to read and click the OK button.

The history data existing up until the specified date and time of day is then read and displayed.



F5-4-11.ai

■ Closing History Data

If history data read into the Concentration Analysis History window or Retention Time History window or Calibration coefficient History window is no longer required, proceed as follows to close it.



CAUTION

History data is shared between the Concentration Analysis History window and the Retention Time History window; if history data in either window is cleared, the other window is also cleared accordingly.

● Operation procedure

Open the Concentration Analysis History window or Retention Time History window or Calibration coefficient History window and click on the Close History command in the File menu.

History data is then closed, clearing the display.



Only one series of history data can be read at a time. Reading new history data causes the previous history data to be closed automatically.

■ Reading (Opening a File)

A saved file can be read in a file reference window using the following procedure:

● Operation procedure

- (1) Select the file reference window you wish to read and click on the Open command in the File menu.

- This operation can also be conducted by clicking the  button on the toolbar.

A dialog box for specifying the file to read appears.



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- (2) Specify the file name to read and click the OK button.
The specified file is then read, displaying the saved data.



- Data in an opened file can be modified.

SEE ALSO

Subsection 5.5.5 for data modification

■ Closing a File (on a File Reference Window)

If a file read in a file reference window is no longer required, close it using the following procedure:

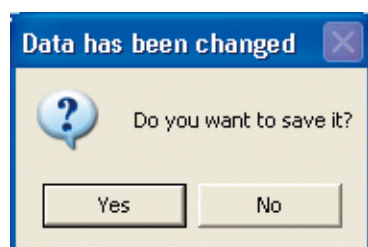
● Operation procedure

Display the file reference window you wish to close and click on the Close command in the File menu.

The specified file is then closed.

TIP

- If the file has been modified, a dialog box asking if you want to save the changes appears. Click the Yes button and enter the file name in the displayed dialog box to save the data as a new file. Note that if you click the Cancel button in the displayed dialog box, the file will be closed without saving the modified data.



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- Only one file can be displayed in a single file reference window. Opening the next file causes the previous file to be closed automatically.

5.4.5 Modifying and Re-saving Data

Data read in a file reference window (File Analysis Results, File Concentration Analysis History, File Retention Time History, Laboratory Analysis Results or Calibration coefficient History window) can also be modified. Further, modified data can be re-saved (overwritten) or saved to a file under a different name (new save).

■ Modifying Data (in a File Reference Window)

● Operation procedure

- Choose the cell you wish to modify in the file reference window and double click it (or press the F2 key).

The data of the selected cell is displayed in the cell contents change window on the toolbar.

#	Strm#-Peak#-PeakName	Conc.	R.Time	Det.#	Peak		
					S.Time	R.Time	E.Time
11	02-001-Peak1 (%)	60.002	30.7	1	19.2	30.7	45.1
12	02-002-CH4 (%)	39.963	74.5	1	63.5	74.5	87.1
13	02-003-C2H6 (%)	19.999	107.7	1	96.6	107.7	120.1

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- (2) Edit the data in the cell contents change window and press the Return key.
The edited results will be displayed in the cell. (Press the ESC key to cancel editing.)

TIP

Limitation on data modification


- You can modify or erase data values in cells, but you cannot delete a cell itself to move successive data upward.

How to choose a cell

- To select a cell, move the mouse cursor over the desired cell and click on it. Alternatively, you can use the cursor keys to move the cursor.

■ Overwriting (in a File Reference Window)

● Operation procedure

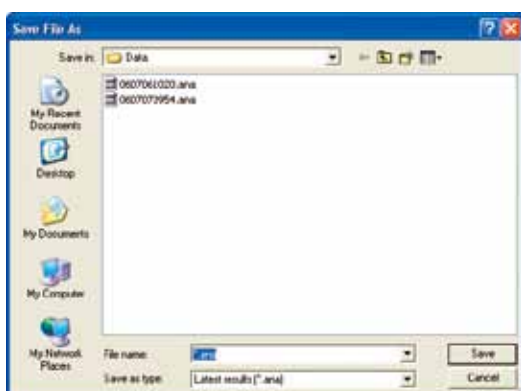
- (1) Display the file reference window you wish to save and click on the Overwriting Save command in the File menu.
 - This operation can also be conducted by clicking the  button on the toolbar.
- (2) The window data is saved to the file without displaying a message.

■ New File Save (in a File Reference Window)

● Operation procedure

- (1) Display the file reference window you wish to save and click on the Save As command in the File menu.

A dialog box for entering the storage destination appears.



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- (2) Select the drive name and directory name, enter the file name under which you wish to save the data in front of the extension, and then click the OK button.

The data in the window will be written to and saved to the new file.

TIP

Extension

- An extension affixed to a file name upon saving is classified according to the window type as shown below.
The window types can be identified by these extensions.
 Latest analysis results: .ana
 Concentration analysis history: .cnc
 Retention time history: .rtm
 Laboratory analysis results: .lab
 Calibration coefficient history: .cef

File format

- The format of a file to save is a text file (separated by commas (,)). This file can be read by general applications as well as from a file reference window within the Analysis Results window.

5.4.6 Plotting History Data on a Graph

Using the data of a history window (Concentration Analysis History, Retention Time History, Calibration coefficient History File Concentration Analysis History, File Retention Time Analysis History or File Calibration coefficient History), a graph can be created. Unnecessary graphs can be closed.






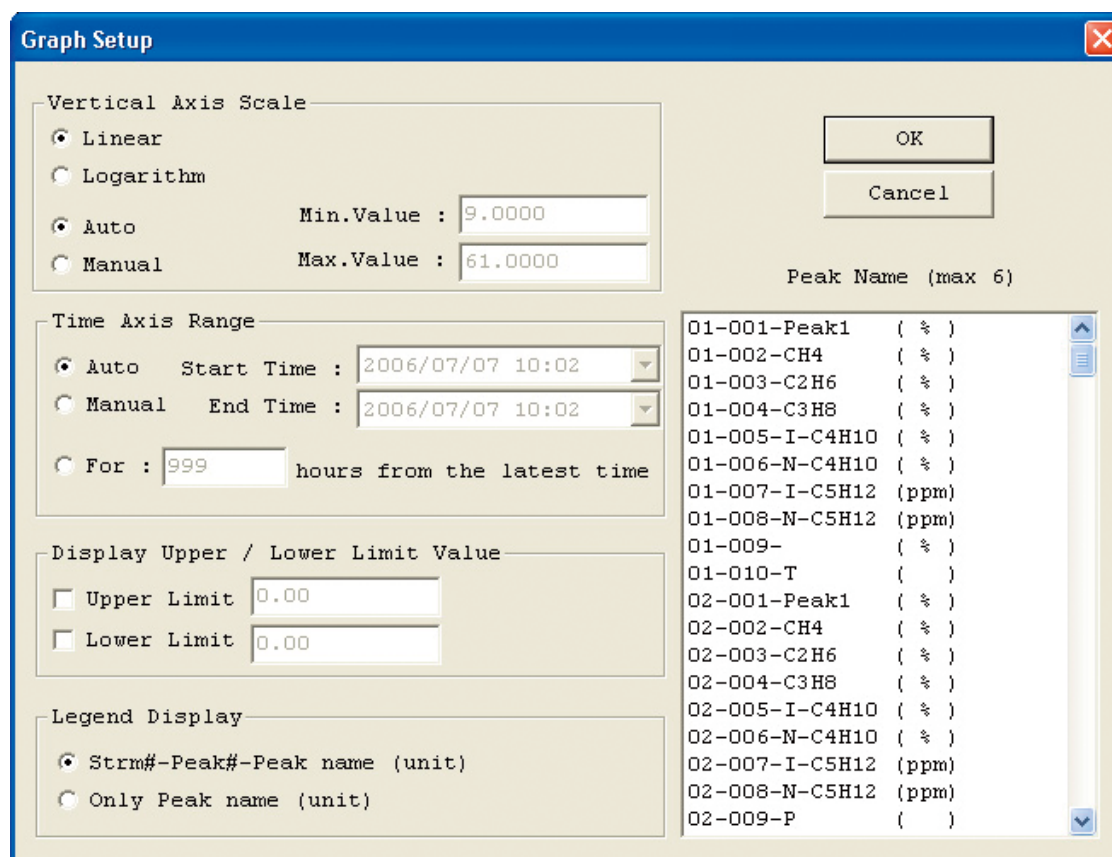
CAUTION

Data from windows other than the history windows (Latest Analysis Results, Laboratory Analysis Results, File Analysis Results, and File Laboratory Analysis Results) cannot be used to create graphs.

■ Drawing a Graph

● Operation procedure

- (1) With a history window (one of the noted six windows) displayed, click the Create command in the Graph menu.
 - This operation can also be conducted by clicking the    button on the toolbar.
- A dialog box for setting up a graph appears.



Graph Setup

Vertical Axis Scale

☒ Linear

☐ Logarithm

☒ Auto Min.Value : 9.0000

☐ Manual Max.Value : 61.0000

Time Axis Range

☒ Auto Start Time : 2006/07/07 10:02

☐ Manual End Time : 2006/07/07 10:02

☐ For : 999 hours from the latest time

Display Upper / Lower Limit Value

☐ Upper Limit 0.00

☐ Lower Limit 0.00

Legend Display

☒ Strm#-Peak#-Peak name (unit)

☐ Only Peak name (unit)

OK

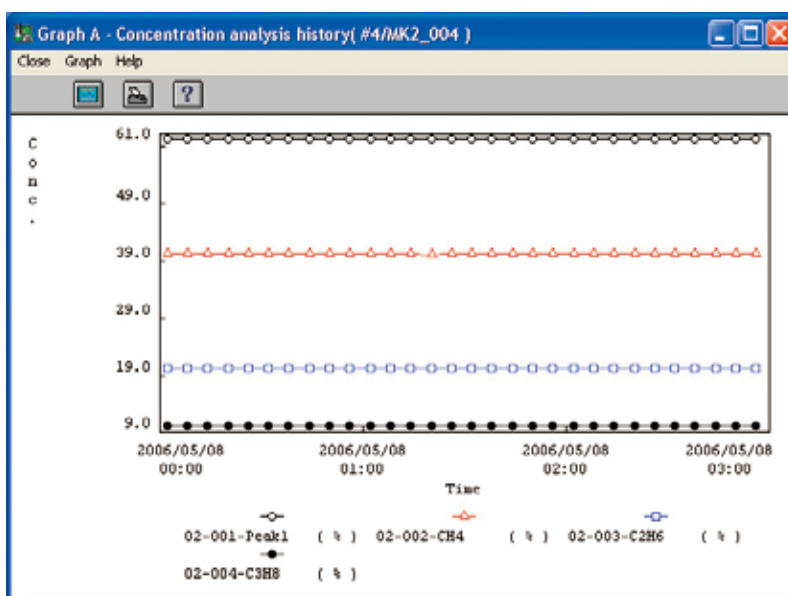
Cancel

Peak Name (max 6)

01-001-Peak1	(%)
01-002-CH4	(%)
01-003-C2H6	(%)
01-004-C3H8	(%)
01-005-I-C4H10	(%)
01-006-N-C4H10	(%)
01-007-I-C5H12	(ppm)
01-008-N-C5H12	(ppm)
01-009-	(%)
01-010-T	()
02-001-Peak1	(%)
02-002-CH4	(%)
02-003-C2H6	(%)
02-004-C3H8	(%)
02-005-I-C4H10	(%)
02-006-N-C4H10	(%)
02-007-I-C5H12	(ppm)
02-008-N-C5H12	(ppm)
02-009-P	()

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- (2) Select the peak name to be indicated on the graph from the list box at the lower right of the dialog box as follows:
- Continuous peak names: Drag from the first peak name to the last peak name.
- Discontinuous peak names: a) Click on the first peak name or the start of a peak range.
b) With the CTRL key held down, click on the next peak name or the end of the range.
c) Repeat step b) to select the necessary peak names.
- The selected peak names will be inverse video displayed.
- Up to six peak names can be selected at a time.
 - If a wrong peak range has been selected, make a new selection.
- (3) Set up a scale for the ordinate (a concentration scale for concentration analysis history, a retention time scale for retention time history or calibration coefficient scale for calibration coefficient history).
- a) Select linear or logarithmic representation.
- b) Select Auto/Manual mode for scale setup. With Auto selected, the scale suitable for a selected range is automatically set. When Manual is selected, you need to further enter the maximum and minimum values of the axis.
- In logarithmic representation, the zero or negative values cannot be represented properly. If the values include the zero or a negative value, be sure to select linear representation.
- (4) Set up the time axis range.
- Choose Auto or Manual. With Auto selected, the entire time range displayed in the history window is turned into a graph. When Manual is selected, you should choose the start time and end time from the list boxes of the drop-down format. In this case, only data in the selected range is plotted into a graph.
- A start time must be selected prior to the end time.
- (5) As the form for peak name representation, choose either "Stream# - Peak# - Peak Name (unit)", or "Peak Name (unit)."
- (6) Check that all settings have been specified, and then click the OK button.
- A graph window is then displayed.



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- A graph window is always displayed concurrently with the history window, or the data source of the graph window.
- To modify a drawn graph, execute the Create command in the Graph menu and change the settings in the dialog box displayed. (The commands of either the history window or the graph window are available.)
- Graph windows cannot be saved. If necessary, save the relevant history window then draw the graph again.

■ Closing Graph Windows

If a graph window is no longer required, close it as follows:

● Operation procedure

In the graph window you wish to close, click on the Close command in the Close menu.

The graph window is then closed.

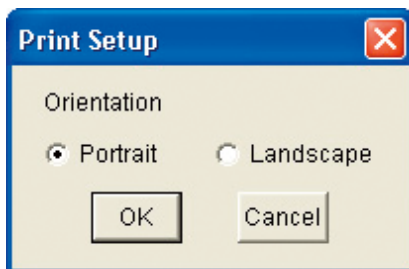
■ Printing a Graph Window

● Operation procedure

In the graph window you wish to print out, click on the Print command in the Graph menu. The graph window is then printed.

You can also print it by clicking the  button on the toolbar in the graph window.

The Page Setup command in the Graph menu allows you to set the direction of the printing paper (Portrait/Landscape).



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6. Display and Operations of Windows while Connected to ASI

This chapter describes the display and operations of the Overview window, Short-term Trend window, and ASI Operation window when ASI is connected to ASET using the Overview window.

The display and operations of the Alarm window are the same regardless of the analyzer type. See Chapter 7.

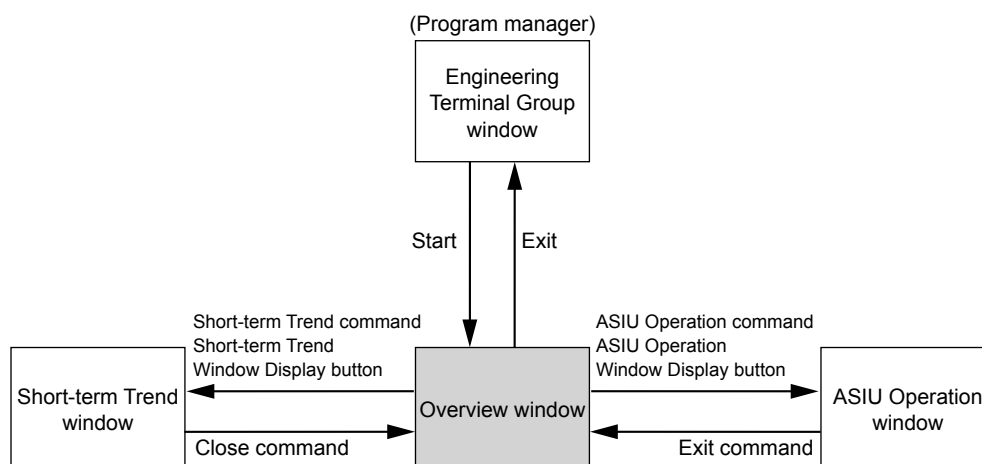
Some of the windows available while connected to ASI have the same window names as those available while connected to GC1000 Mark II; however, their functions differ somewhat. The following shows the general outline of the windows available for this connection.

Overview window: Displays the statuses of 16 contact inputs and outputs.

Short-term Trend window: Displays changes in the instantaneous values within the average cycles of analog inputs as a chromatogram. This window is basically the same as the Chromatogram window for GC1000s.

ASI Operation window: Facilitates operation of the statuses of 16 contact outputs and the status modes.

Related windows



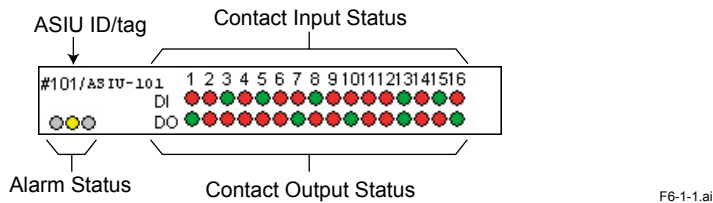
F6-0.ai

6.1 Overview Window

6.1.1 ASI Analyzer Status Window

- **Window configuration**

The following table shows the elements of the AISU Analyzer Status window.



F6-1-1.ai

- **Functions and Display Contents of Elements**

Button/Display	Function and Display Contents
Analyzer ID	Indicates the analyzer ID of the displayed analyzer.
Tag No.	Indicates the analyzer tag number of the displayed data. If no tag number has been set to the analyzer, the area is left blank.
(Enable)/DISABLE	Indicates the current connection status of the displayed analyzer ID with respect to the analyzer server. "DISABLE" is indicated if connection is not possible; otherwise, the area is left blank.
Alarm Status	Indicates the current alarm status as follows. Moreover, double clicking on the alarm status indication causes the Alarm Status window of that analyzer to appear. Illuminated in green: No alarm Illuminated in yellow: Level-2 alarm occurred. Illuminated in red: Level-1 alarm occurred.
Contact Input Status	Displays the ON/OFF statuses of the contact inputs (DI1 to DI16). By default, ON is indicated in green, while OFF is shown in gray. The display colors can be changed in the Builder Panel Setting dialog box of PSAS. Right clicking on this area causes a list of DI tag numbers/signals to appear.
Contact Output Status	Displays the ON/OFF statuses of the contact outputs (DO1 to DO16). By default, ON is indicated in green, while OFF is shown in gray. The display colors can be changed in the Builder Panel of PSAS. Right clicking on this area causes a list of DO tag numbers and signals to appear.

6.1.2 Tag List Window

The Tag List window displays the tag numbers and signals of DI's or DO's. These display items can be edited in the ASIU Operation window.



DI No.	Tag#	Signal
01	DI Tag_01	DISig_01
02	DI Tag_02	DISig_02
03	DI Tag_03	DISig_03
04	DI Tag_04	DISig_04
05	DI Tag_05	DISig_05
06	DI Tag_06	DISig_06
07	DI Tag_07	DISig_07
08	DI Tag_08	DISig_08
09	DI Tag_09	DISig_09
10	DI Tag_10	DISig_10
11	DI Tag_11	DISig_11
12	DI Tag_12	DISig_12
13	DI Tag_13	DISig_13
14	DI Tag_14	DISig_14
15	DI Tag_15	DISig_15
16	DI Tag_16	DISig_16

F6-1-2.ai

6.2 Short-term Trend Window

The Short-term Trend window displays the trend of instantaneous values of the selected AI's (1 to 16) of ASI. The basic functions are the same as those of the Chromatogram window.

To reference short-term trend information, read "chromatogram" in the help of the Chromatogram window as "trend", unless otherwise stated. The Short-term Trend window can display the latest trend, previous trend, and trend data stored in the analyzer server, and trend data that has been saved to a file. Moreover, currently displayed trend data can be saved in a file.

Note that a trend does not have peak information, gate information, temperature data, or pressure data. Thus, the Set Mark command in the Graph menu and the Temperature/Pressure Display command in the Graph menu are invalid.

The trend data that is displayed by default upon opening the Short-term Trend window are latest trend 1 and previous trend 1.

The display and operations of the Short-term Trend window are basically the same as those of the Chromatogram window available while connected to GC1000 Mark II. This section describes portions of the display or operations of the window that differ from those when connected to GC1000. For other portions, see subsection 4.3, "Chromatogram Window," in Chapter 4, "Display and Operations during Connection to GC1000 Mark II."

6.2.1 Trend Display

The Short-term Trend window can display eight trend graphs.

■ Trend Display


Trend graphs that can be displayed are as follows:

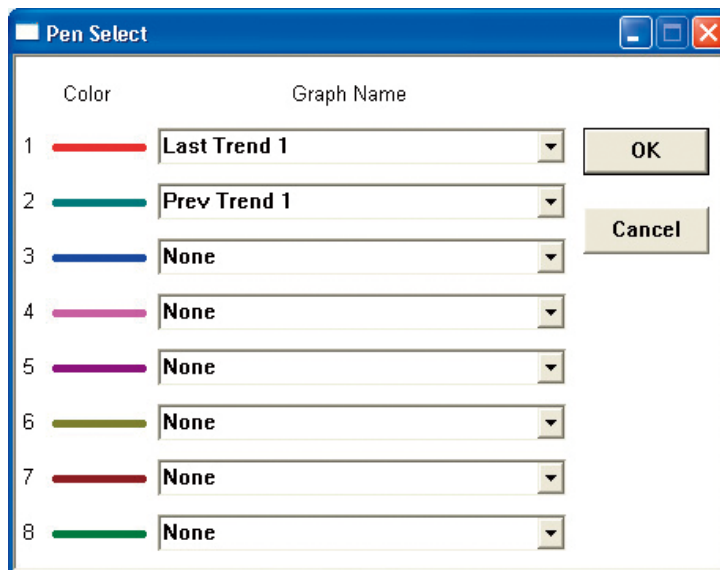
Chromatogram Type	Description
Latest trend	This is the trend currently being measured.
Previous trend	This is the trend measured previously, which is updated periodically.
File trend	This is trend that has been saved to a file.
Differential trend	This is the result of differences determined by comparing two trends that are displayed.
History trend	This is a previous trend that has been stored in the analyzer server.

- **For the latest trend and previous trend**

- (1) Click on the Set Pen command in the Graph menu.

The Set Pen dialog box appears.

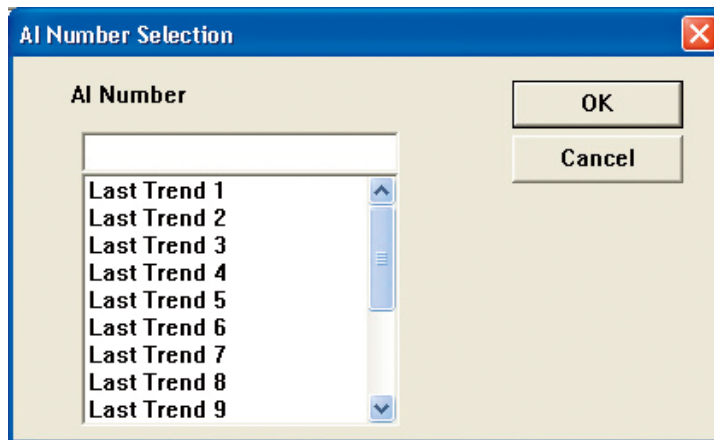
This dialog box can also be called up by clicking the  button on the toolbar.



F6-2-1.ai

- (2) From the combo box corresponding to the display colors used for display, choose either "Latest trend" or "Previous trend."

The Select AI Number dialog box appears.




F6-2-2.ai

- (3) Select an AI number and click the OK button. This returns you to the Set Pen dialog box.
In this case, the combo box selected in step (1) shows the selected trend name.
- (4) Click the OK button. The trend of the selected AI appears.

- **History trend**

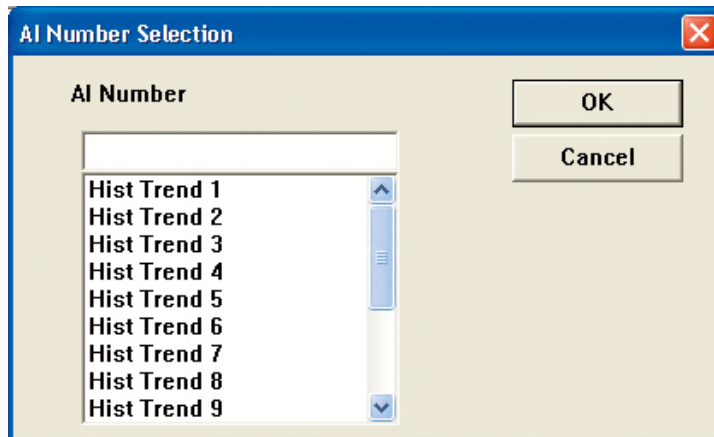
- (1) Click on the Set Pen command in the Graph menu.

The Set Pen dialog box appears.

This dialog box can also be called up by clicking the  button on the toolbar.

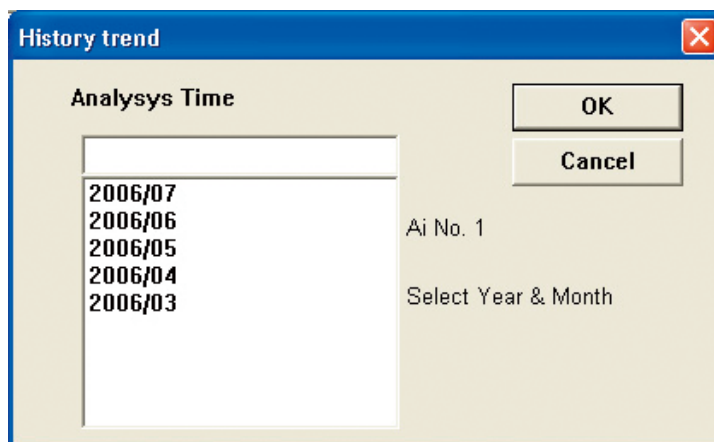
- (2) From the combo box corresponding to the display colors used for display, choose “History trend”.

The Select AI Number dialog box appears.



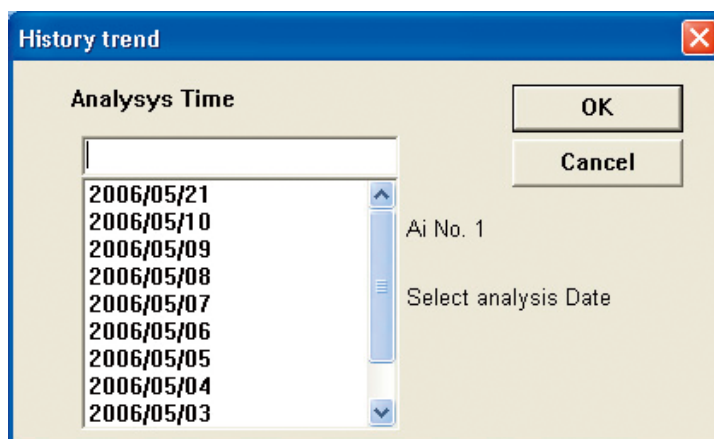
F6-2-3.ai

- (3) Select an AI number and click the OK button. The Select History Trend dialog box appears.



F6-2-4.ai

- (4) Select the time frame in which the history trend you wish to display is included, and click the OK button. A list of trend start times appears.

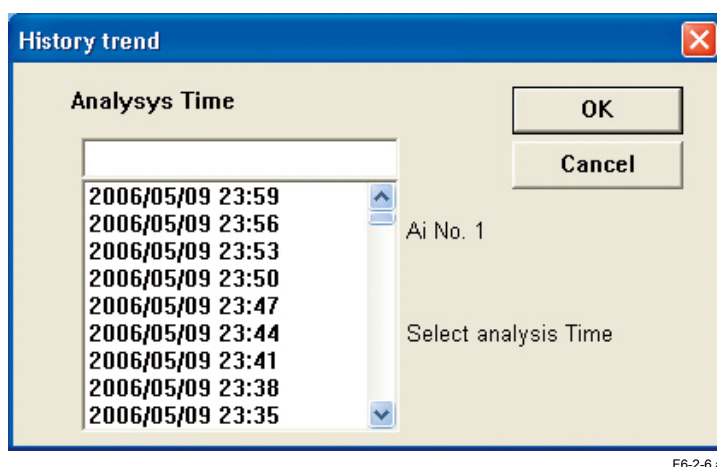


F6-2-5.ai

- (5) Choose the start time and click the OK button. This returns you to the Set Pen dialog box.
In this case, the combo box selected in step (1) shows the following trend start time and AI number:

12/08 16:09 H3

Month Day Hr Min History trend's AI No.



TIP

If a time earlier than 24 hours prior is specified in step (4), processing may take some time, depending on the amount of data.

● File trend and differential trend

These are the same as the file and differential chromatograms available while connected to GC1000. See subsection 5.3.4, "Displaying Chromatogram and Temperature Data."

■ Setting Marks and Displaying Temperature Data

Short-term trend data does not contain mark information or temperature and pressure data; these items cannot be displayed in the window.

6.3 Contact Output Operation Window

The Contact Output Operation window displays the statuses of ASIU contact outputs as ON/OFF. From this window, the ON/OFF status of the contact outputs can be operated.

6.3.1 Displaying and Exiting the ASIU Operation Window

This section describes how to display and exit the ASIU Operation window.



CAUTION

Only one ASIU Operation window can be displayed at a time.

■ Displaying

Specify the analyzer ID of ASI> in the Overview window, and then open the ASI> Operation window.




SEE ALSO

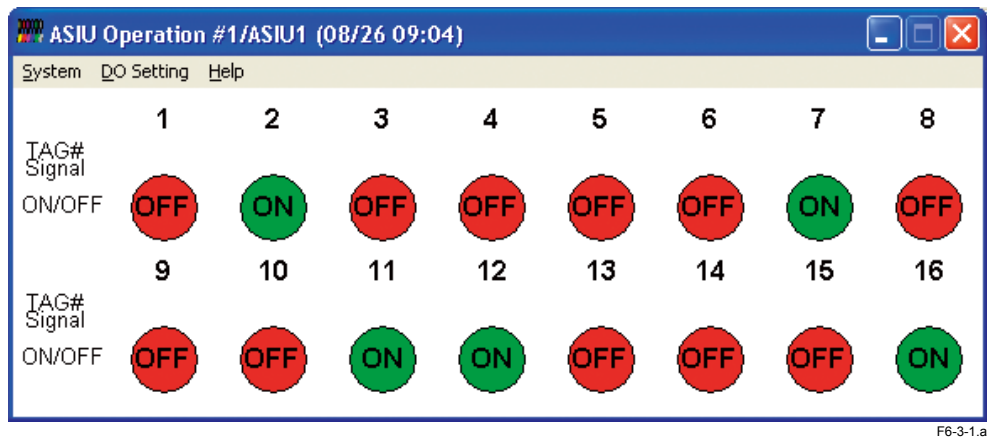
For specifying an analyzer ID, see section 3.6, "Selecting Analyzer."

● Operation procedure

Click on the ASI> Operation command in the Window menu.

The ASI> Operation window is then displayed.

This operation can also be conducted by clicking the () button on the toolbar.



■ Exiting

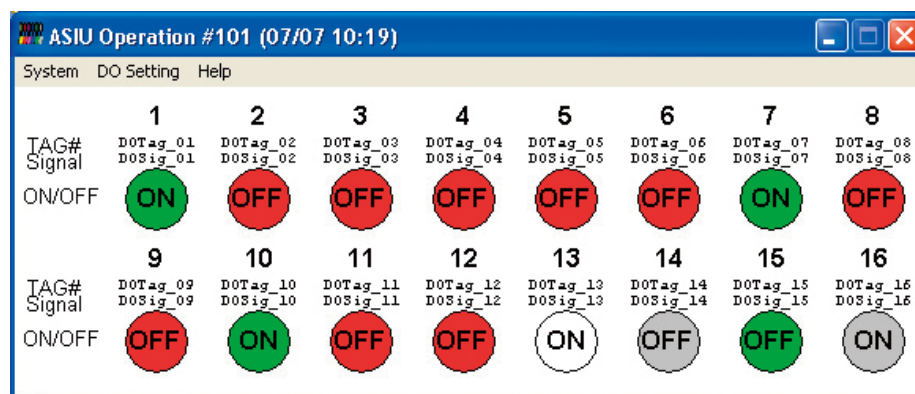
Click on the Close command in the System menu while the ASI> Operation window is in an active state.

The ASI> Operation window is closed.

6.3.2 Window Configuration

The ASIU Operation window is intended to display and operate the contact output statuses.

■ Element Names and Functions



F6-3-2.ai

Tag No.: Used to identify the contact outputs. Tag numbers are set in the DO Setting dialog box.

Signal: This is additional information for the contact outputs. Settings are made in the DO Setting dialog box.

Contact Output button: Displays the contact output statuses (ON/OFF). You can change the contact output statuses. (This requires user level "B" or "C.")

6.3.3 Contact Output Operation

The ASIU Operation window allows you to operate the contact outputs.

■ Operating Contact Outputs

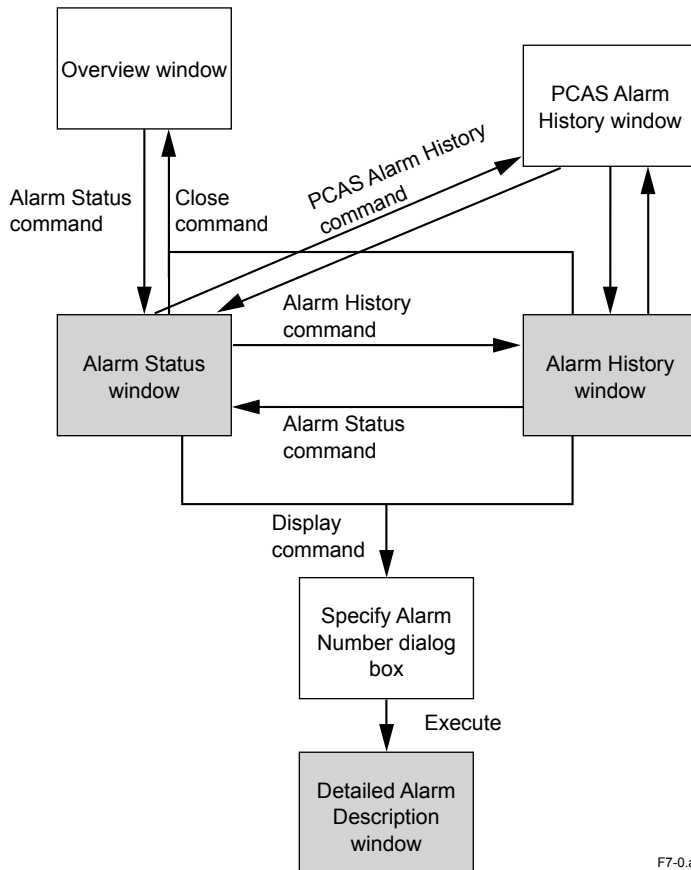
- (1) Double click on the contact output button at which you wish to make change. Then, a message box appears confirming that you want to change the DO setting.
 - (2) Click the OK button to change the contact output status.
- (The output status operates by changing to ON, OFF, ON, and so on, like a toggle switch.)

7. Alarm Windows

The alarm windows display alarm information that is generated in the analyzer. There are three types of windows, classified by the display contents: Alarm Status window, Alarm History window, and Detailed Alarm Description window.

This chapter describes the types and configuration of the alarm windows, how to display and exit them, erasing alarm history, and the creation of a user alarm.

Related windows



F7-0.ai

■ Displaying Each Alarm Window from the Overview Window

There are three ways to display an alarm window from the Overview window:

- (1) Click on the Alarm command in the Window menu.
- (2) Click the Alarm button on the toolbar.
- (3) Double clicking on the relevant alarm lamp in the Analyzer Status window of the analyzer of which you wish to display the alarms.

Note that opening an alarm window using method (1) or (2), requires that you pre-select the analyzer of which you wish to display alarms.



SEE ALSO

Subsection 3.6, "Selecting Analyzer" for how to select the analyzer

If you open an alarm window from the Overview window, the Alarm Status window appears.



TIP

Only one alarm window can be displayed at a time.

■ Exiting

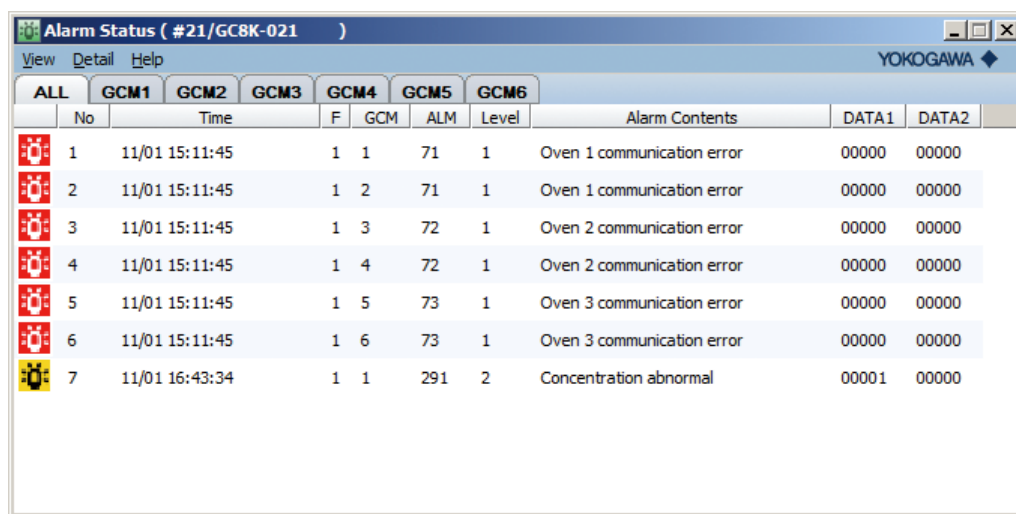
While an alarm window is in active state, click on the Close command in the Control menu.
The alarm window is closed.

7.1 Alarm Status Window

The Alarm Status Window is a window displaying the statuses of alarms that have occurred in the analyzers.

The Alarm Status window displays alarm messages with the latest alarm at the top. The display items are the occurrence date and time, a flag, alarm numbers, an alarm description, and related data (1, 2). If there is data hidden from view in the window, you can scroll through it to display hidden portions. The flag is always “1” (occurred).

Right clicking on an alarm number display area allows you to display the Detailed Alarm Description window of that alarm number.



	No	Time	F	GCM	ALM	Level	Alarm Contents	DATA1	DATA2
	1	11/01 15:11:45	1	1	71	1	Oven 1 communication error	00000	00000
	2	11/01 15:11:45	1	2	71	1	Oven 1 communication error	00000	00000
	3	11/01 15:11:45	1	3	72	1	Oven 2 communication error	00000	00000
	4	11/01 15:11:45	1	4	72	1	Oven 2 communication error	00000	00000
	5	11/01 15:11:45	1	5	73	1	Oven 3 communication error	00000	00000
	6	11/01 15:11:45	1	6	73	1	Oven 3 communication error	00000	00000
	7	11/01 16:43:34	1	1	291	2	Concentration abnormal	00001	00000

If you select the [ALL] tab, it displays the statuses of all alarms that have occurred in the GC8000.
If you select the [GCM] tab, it displays the alarm status of the selected GCM and the equipment overall.

7.2 Alarm History Window

The Alarm History Window is a window displaying the histories of alarms that have occurred in the analyzers.

The Alarm History window reads analyzer based alarm histories stored in the analyzer server, and displays the latest 300 alarms.

The display items are the occurrence date and time, a flag, alarm numbers, an alarm description, and related data (1, 2). If there is data hidden from view in the window, you can scroll through it to display hidden portions. The flag, if it is “1”, indicates the occurrence of an alarm, or if it is “0,” indicates recovery from it.

Right clicking on an alarm number display area allows you to display the Detailed Alarm Description window of that alarm number.

YOKOGAWA									
View Detail Help									
ALL GCM1 GCM2 GCM3 GCM4 GCM5 GCM6									
No	Time	F	GCM	ALM	Level	Alarm Contents	DATA1	DATA2	
1	11/01 15:11:45	1	1	71	1	Oven 1 communication error	00000	00000	
2	11/01 16:43:34	1	1	291	2	Concentration abnormal	00001	00000	

If you select the [ALL] tab, it displays the histories of all alarms that have occurred in the GC8000.

If you select the [GCM] tab, it displays the alarm histories of the selected GCM and the equipment overall.

A maximum of 600 alarm histories will be displayed.

7.3 PCAS Alarm History Window

The PCAS Alarm History window reads an alarm log file stored in the analyzer server and displays the latest 300 alarms. If a PCAS alarm occurs while this window is being displayed, you should re-read the alarm log file from the analyzer server to update the display.

The display items are the occurrence date and time, a flag, alarm numbers, alarm description, and related data (1, 2). If there is data hidden from view in the window, you can scroll through it to display hidden portions. The flag, if it is "1", indicates the occurrence of an alarm, or if it is "0" it indicates recovery from it.

Right clicking on an alarm number display area allows you to display the Detailed Alarm Description window of that alarm number.

PCAS Alarm History (#244/PCAS244)

View Detail Help

	Time	F	ALM	Alarm contents	DATA1	DATA2
1	07/11 10:21:23	1	539	Server comm. fail	00247	00000
2	07/11 09:46:02	0	539	Server comm. fail	00247	00000
3	07/11 09:45:26	1	539	Server comm. fail	00000	00000
4	07/11 09:45:23	0	539	Server comm. fail	00000	00000
5	07/10 17:31:35	1	538	Analyzer comm. fail	00005	00001
6	07/10 10:24:00	1	550	FTP fail	00006	00007
7	07/10 10:23:57	1	550	FTP fail	00006	00007
8	07/10 10:23:54	1	550	FTP fail	00006	00007
9	07/10 10:23:51	1	550	FTP fail	00006	00007
10	07/10 10:23:48	1	550	FTP fail	00006	00007
11	07/07 21:00:01	1	551	Time set error	00000	00000
12	07/07 20:15:06	1	539	Server comm. fail	00000	00000
13	07/07 15:39:18	1	591	Alarm log reset	00004	00000
14	07/06 17:00:01	1	551	Time set error	00000	00000

Scroll bar

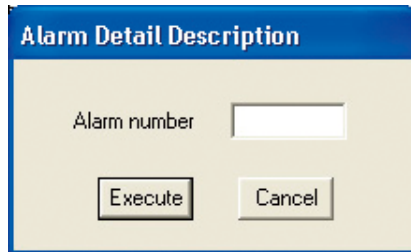
F7-1-3.ai

7.4 Detailed Alarm Description Window

The Detailed Alarm Description window displays a detailed description of an alarm of a specified number.

● Displaying the Detailed Alarm Description window

- (1) While the Analyzer Operation window is displayed, click on the Alarm Details command in the Display menu. A dialog box for specifying an alarm number appears.



F7-1-6.ai

- (2) Enter the alarm number and click the Execute button.

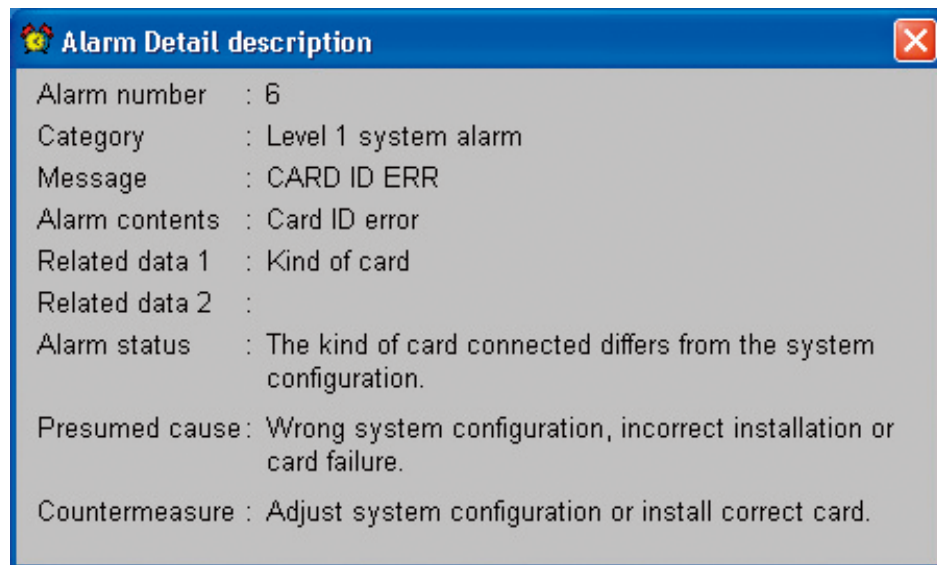
The Detailed Alarm Description window of the specified alarm then appears.

If an alarm window is displaying the alarms of GC8000, the Detailed Alarm Description window displays a detailed description of the specified alarm of GC8000.

If an alarm window is displaying the alarms of GC1000 Mark II, the Detailed Alarm Description window displays a detailed description of the specified alarm of GC1000 Mark II.

If the alarm window is displaying ASIU alarms, the Detailed Alarm Description window displays a detailed description of the specified ASIU alarm.

If the alarm window displays PCAS alarms, the Detailed Alarm Description window displays a detailed description of the specified PCAS alarm.



F7-1-4.ai

HELP !

If you specify an unregistered number, an “Undefined alarm” message will be indicated in the window. In this case, close the Detailed Alarm Description window and re-specify the correct alarm number.

● Display contents

The following shows the display contents of each item:

Item Display	Contents
Alarm No.	This is the alarm number specified upon opening. If an unregistered number is specified, the message "Undefined alarm" appears here.
Message	This shows the alarm message displayed in the Analyzer LCD panel.
Associated Data 1/2	For alarms with associated data, the meaning of the data and its scale are indicated.
Alarm Status	Indicates alarm detection criteria and limit value.
Possible Cause	Indicates the possible cause(s) of the generated alarm.
Countermeasure	Indicates the countermeasures and immediate remedies that can be taken against the possible cause.



TIP

While the Alarm Status window or Alarm History window is displayed, you can right click on the alarm number area of a displayed alarm to display the Detailed Alarm Description window of that alarm.

7.5 Clear Alarm Status/History

The alarm history information stored in the analyzer server can be cleared to start saving new alarm history.

If the analyzer alarm history is being displayed, the following procedure clears the alarm history of the displayed analyzer. If PCAS alarm history is being displayed, this procedure clears the PCAS alarm history.



CAUTION

Only users of the user level C or more can erase the display contents of the Alarm History window.

Click the Clear History command in the Display menu of the Alarm Status or Alarm History window.

This erases the display contents of the Alarm History window.

Only users of the user level C+ can erase the display contents of the Alarm Status window of GC8000.

The Alarm Status of GC1000 MarkII can not be erased.

8. ASET for ARCNET

The New ARCNET-based bus system enables connection between an ARCNET system and an Ethernet system. This realizes addition of Ethernet analyzers to existing ARCNET systems.

8.1 System Configuration

ASET-G software which is ARCNET supported version must be installed to correspond with the ARCNET system.

A typical network configuration of analyzer bus is shown in Figure 8.1.

The network consists of analyzers (Gas chromatograph etc.) and "Analyzer bus systems for ARCNET". This "Analyzer bus systems for ARCNET" consist of "Gateway unit", "analyzer server" and "ARCNET / Ethernet Converter".

Each software (PCAS, ASET) for "Analyzer server" and "Analyzer Server Engineering Terminal" should be used "ARC: ARCNET supported version".

The communication to the analyzer connected to Ethernet is also enabled.

- "Analyzer bus systems for ARCNET" should be used so that DCS communicates with analyzer connected to ARCNET.
- Redundancy for ARCNET is enabled. Redundancy for Ethernet can be done by using double "Analyzer bus systems for ARCNET".
- One "Analyzer bus systems for ARCNET" can communicate with up to 30 sets of analyzers connected to ARCNET. In case of communicating with more than 31 sets, plural number of "Analyzer bus systems for ARCNET" should be used.

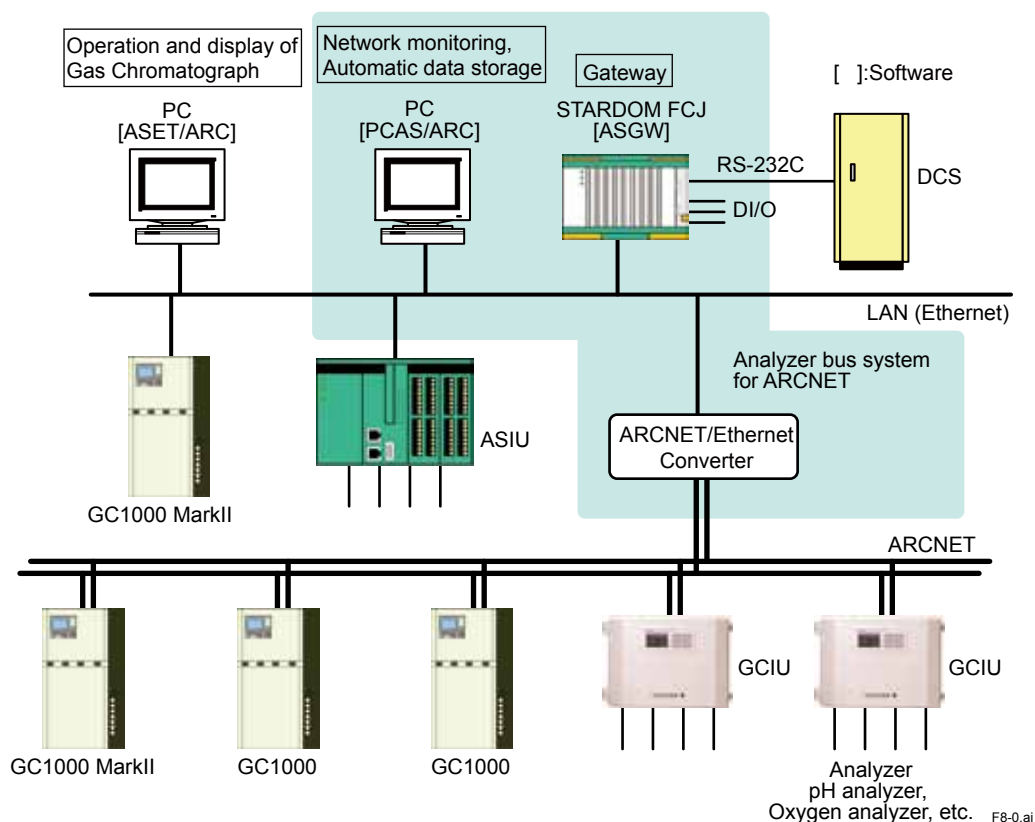


Figure 8.1 Typical System configuration

8.2 Installing ASET for ARCNET

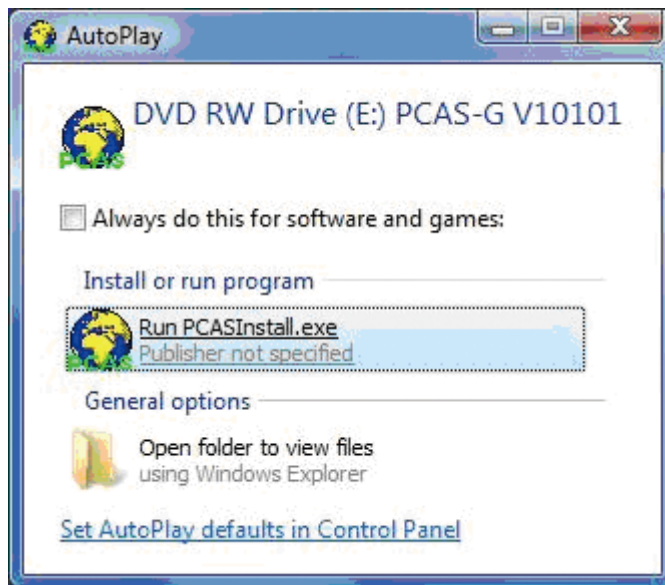
8.2.1 Installing “Microsoft Visual C++ 2008 Redistributable Package”

Install the “Microsoft Visual C++ 2008 Redistributable Package” Before installing ASET-G.

This package is also included in the PCAS Install Disk. If you already installed this Package into the computer while the PCAS installing, you can skip this procedure.

■ Installation Procedure

- (1) Insert the install disc into the CD drive. The following dialog box appears Click “Open folder to view files”.



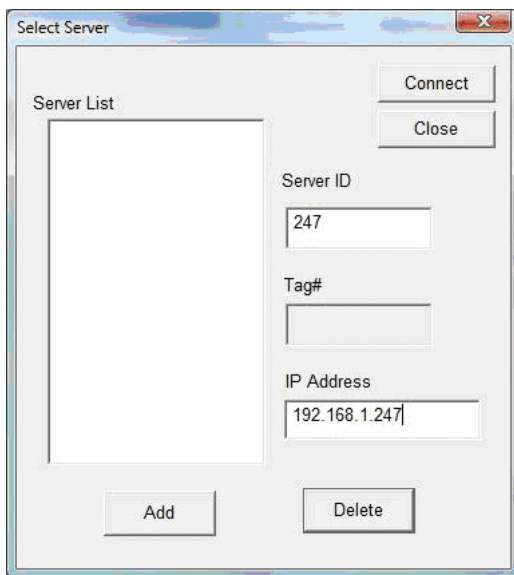
- (2) Select the folder “Microsoft Visual C++ 2008 Redistributable Package (x86)”->” for_English”
- (3) Click “vcredist_x86.exe”, then the installer will start.
- (4) Install the software according to the screen.

8.2.2 Installing ASET-G

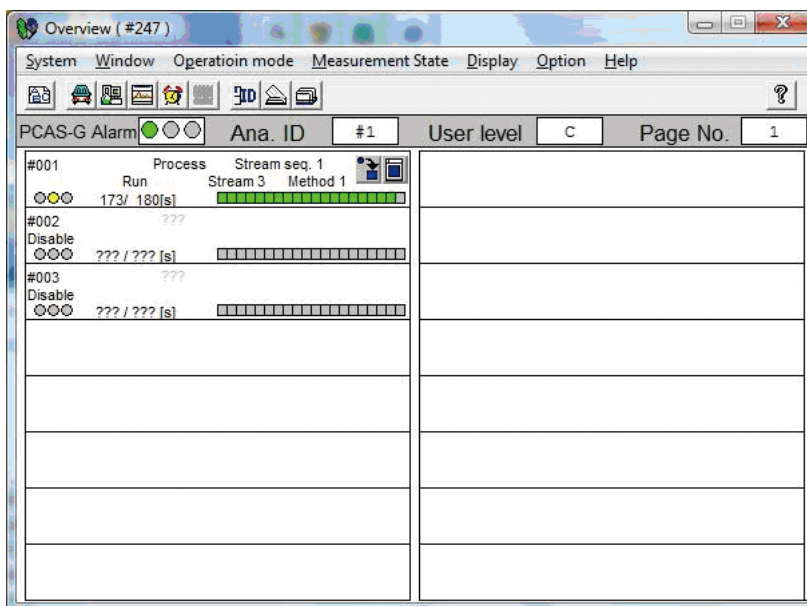
Install the ASET-G according to “Installing the Engineering Terminal”.

8.2.3 Check the ASET-G communication with the PCAS-G

- (1) Start the ASET-G, and a dialog box to set the IP address of the PCAS-G appears.



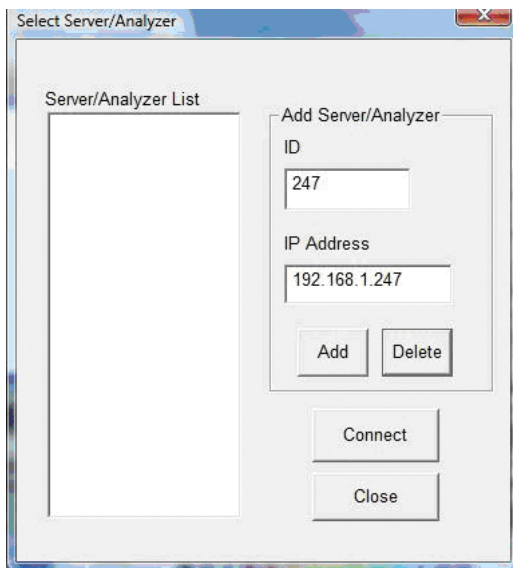
- (2) Enter Server ID and IP address, and click 'connect' button. Check if the Overview Window of the ASET-G appears.



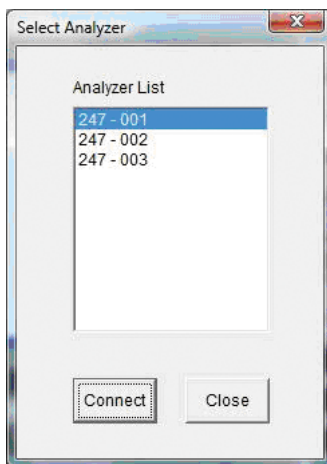
- (3) Overview Window shows each of the analyzer's operation status.

8.2.4 Check the EtherLCD-G communication

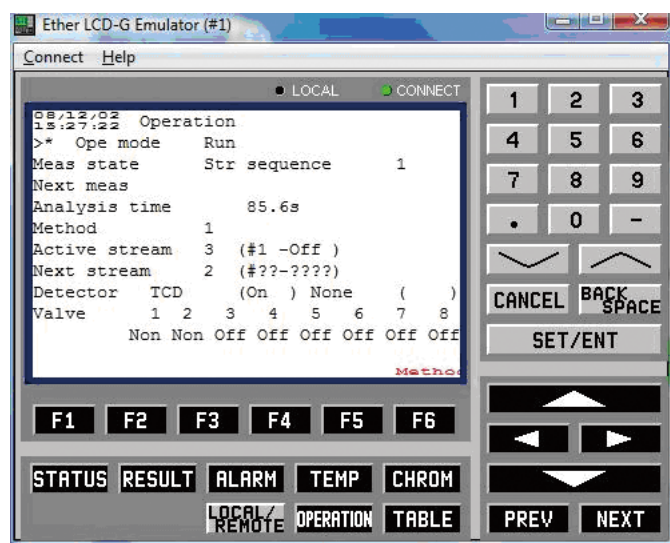
- (1) Start the ASET-G, and a dialog box to set the IP address of the PCAS-G appears.



- (2) Enter Server ID and IP address, and click 'connect' button. Then if the EtherLCD-G communicates with the PCAS-G successfully, "Select Analyzer" dialog box appears. The dialog box shows analyzer list registered in the PCAS-G.



- (3) Select analyzer and click , and click 'connect' button. Check if the analyzer's Ether LCD-G Emulator appears.



8.2.5 PCAS Data Storage check

After finishing the all of installation, check the PCAS data storage.

- (1) Display Analysis result.
- (2) Display historical chromatogram.

For detailed procedures, refer to “4.3 Chromatogram Window” and “4.4 Analysis Results Windows.”

Appendix A List of Menus

This Appendix contains a general outline of the functions available in the Engineering Terminal.
The displayed menu depends on the analyzer to be connected.

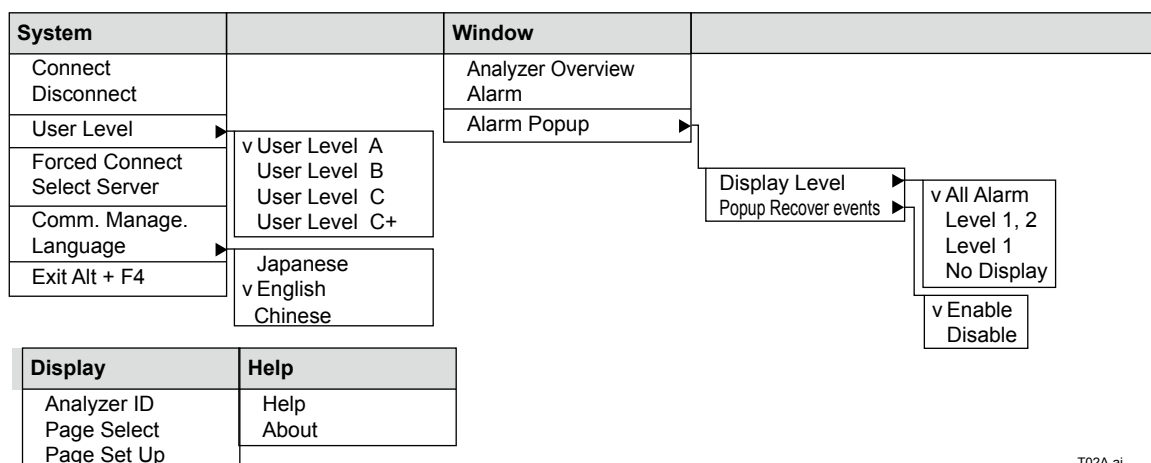
■ Ethernet LCD Emulator Window

Connect		Help
Connect		Help
Disconnect		
Forced Connect		
Select Analyzer		
Displ. Reset		
Comm. Log		
Language	▶	
Exit Alt + F4	Japanese v English Chinese	

T01A.ai

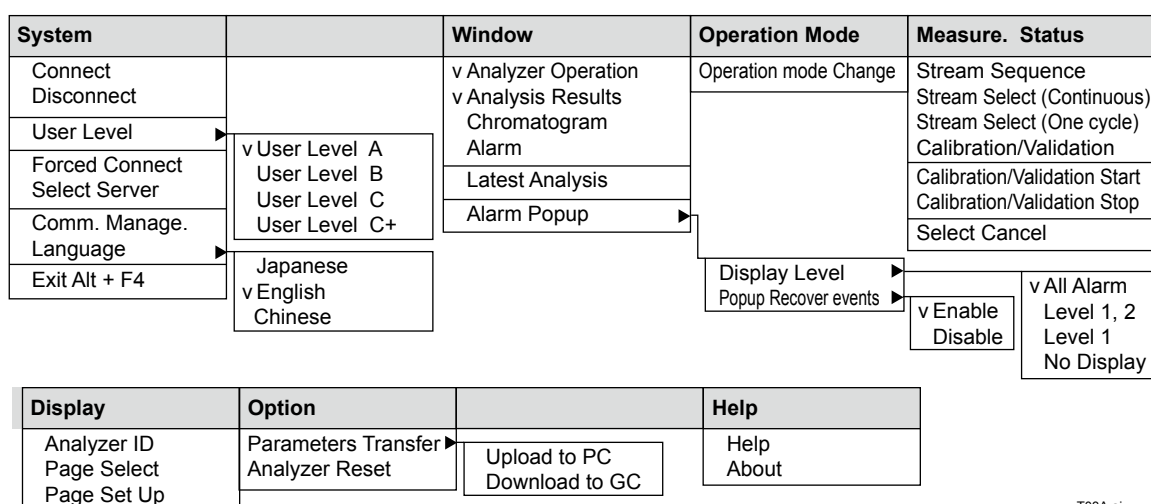
Menu Name	Command Name	Function
Connect	Connect	Connects communication with an analyzer.
	Disconnect	Disconnects communication with an analyzer.
	Forced Connect	
	Select Analyzer	
	Disp. Reset	Erases LCD display and displays the Analyzer Status window anew.
	Comm. Log	
	Language	
	Exit	Exits the LCD emulator.
Help	Help	Displays Help of the LCD emulator.

Overview Window



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In case of GC1000 MarkII



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Menu Name	Command Name	Function
System	Connect	Connects communication with an analyzer.
	Disconnect	Disconnects communication with an analyzer.
	User Level	Sets the user level (A to C).
	Forced Connect	Make a force connect to an analyzer server.
	Select Analyzer	Select an analyzer server connected.
	Comm. Manage.	Change a setting related to the communication log.
	Language	Change the language (Japanese/English/Chinese) used.
	Exit	Exits the Engineering Terminal.
Window	Analyzer Operation	Displays the Analyzer Operation window.
	Analyzer Results	Displays the Analysis Results window.
	Chromatogram	Displays the Chromatogram window.
	Alarm	Displays the Alarm window.
	Latest Analysis Results	Displays the latest analysis result window.
	Alarm Popup	Selection of the display/nondisplay of Pop up alarm window.
Operation Mode	Change Operation Mode	Changes the analyzer operation mode.

Menu Name	Command Name	Function
Measurement Status	Stream Sequence	Command the Stream sequence
	Stream (Continuous)	Command the Stream (continuous)
	Stream (One cycle)	Command the Stream (One cycle)
	Calibration (Validation)	Command the Calibration/Validation.
	Start Calibration (Validation)	Command the Calibration/Validation start.
	End Calibration (Validation)	Command the Calibration/Validation end.
	Cancel Specification	
Display Setting	Analyzer ID	Sets the analyzer ID of the analyzer to operate.
	Select Page	Selects the page to display in the Analyzer Status window.
	Set Page	Sets up the analyzer to display in the Analyzer Status window page.
Option	Transfer Parameters - Upload Parameters	Uploads set parameters from the analyzer to the Engineering Terminal and saves them to the hard disk..
	Transfer Parameters - Download Parameters	Downloads set parameters from the Engineering Terminal to the analyzer.
	Reset Analyzer	Resets the analyzer.
Help	Help	Displays Help of the ASET.
	About	Displays the version information of the Overview window.

■ Analyzer Overview Window

System		Window	Operation Mode	Help
Reload Initial Database		Analyzer Operation	Operation mode Change	Help
Upload Parameter	<div> Main Upload Oven1 Upload Oven2 Upload Oven3 Upload User Program Upload COM Upload GC-HMI Upload </div> <div> Main Download Oven1 Download Oven2 Download Oven3 Download User Program Download COM Download GC-HMI Download </div>	Analysis Results	Change All Operation Mode	
Download Parameter		Chromatogram		
Upload User Script		Alarm		
Download User Script		Anaraizer Configuration		
Upload Software		Latest Analysis		
Download Software		GCM No.		
Memory Dump				
Analysar Reset				

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■ Analyzer Operation Window

SYS	GC State	Ope. Mode	Measure. State	
SYS1 SYS2 SYS3 SYS4 SYS5 SYS6 Exit	v Process Manual	v Run Pause Stop Force Stop Command Cancel	Stream Sequence Stream (Continuously) Calibration/Validation Selection Cancel Calibration/Validation Start Calibration/Validation Stop Selection Cancel Calibration/Validation Method Auto Cal Status	Start v Stop

Manual/Range		Set Up		Help
Manual Range Select	Stream VLV Atm Oven1 Oven2 Oven3	Stream VLV Atm Valve Peak Peak Tracking Stream Sequence		Help
	Atm1-1 Atm1-2 Atm2-1 Atm2-2 Atm3-1 Atm3-2	VLV1-1 VLV1-2 VLV1-3 VLV1-4 VLV1-5 VLV1-6 VLV1-7		
	VLV DET HL Heater1 Press1	DET1-1 DET1-2 HL1		

T04A.ai

In case of GC1000 MarkII

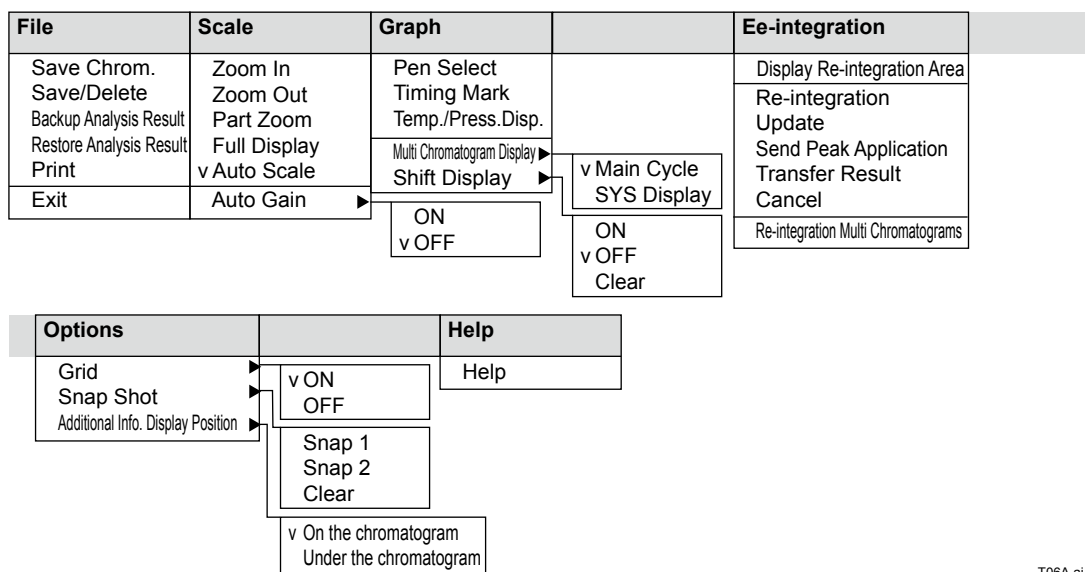
GC State	Ope. Mode	Measure. State	Manual/Range	
v Process Manual Lab	v Run Pause Stop	Stream Sequence Stream Select (Continuous) Stream Select (One cycle) Calibration/Validation Calibration/Validation Start Calibration/Validation Stop Selection Cancel Calibration/Validation Method	Manual Range Select	Stream VLV VLV1 VLV2 VLV3 VLV4 VLV5 VLV6 VLV7 VLV8 DET1 DET2 Herater Pressure
			Valve Peak	Name Gate Std/ON/OFF Time Result Unit/Measuring Range Ref Stream Number/Ref Peak Number Gate Cut Method/Integ Method Std Conc/Std Area/Calib Factor
			Set Up	Help

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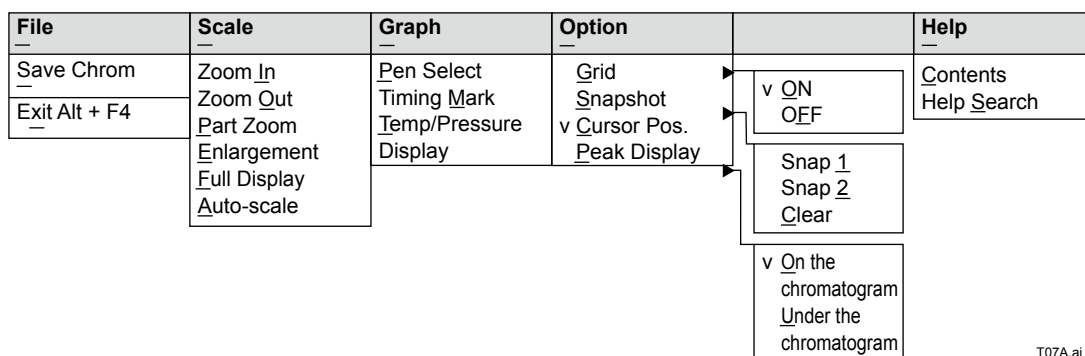
Menu Name	Command Name	Function
GC State	Process	Changes the operation mode to Process.
	Manual	Changes the operation mode to Manual.
	Lab	Changes the operation mode to Laboratory.
Operation Mode	Run	Changes the operation mode to Run.
	Pause	Changes the operation mode to Pause.
	Stop	Changes the operation mode to Stop.
	Command cancel	Cancels the Pause mode or the status of a mode change being reserved.

Menu Name	Command Name	Function
Measurement State	Stream Sequence	Set Stream Sequence. 4 Pattern can be selected.
	Stream Select (Continuous)	Set Stream Number to analyze continuously.
	Stream Select (One cycle)	Set Stream Number to analyze one cycle.
	Calibration/Validation	Set Calibration or Validation stream.
	Calibration/Validation Start	Start Calibration or Validation stream.
	Calibration/Validation Stop	Stop Calibration or Validation stream.
	Selection Cancel	Cancel the above Measurement state which has been set.
	Calibration/Validation Method	Set the Method number of Calibration or Validation.
Manual/Range	Manual-Stream VLV	Switches the Stream switching valve in Manual mode.
	Manual-VLV1	Switches the valve1 in Manual mode
	Manual-VLV2	Switches the valve2 in Manual mode
	Manual-VLV3	Switches the valve3 in Manual mode
	Manual-VLV4	Switches the valve4 in Manual mode
	Manual-VLV5	Switches the valve5 in Manual mode
	Manual-VLV6	Switches the valve6 in Manual mode
	Manual-VLV7	Switches the valve7 in Manual mode
	Manual-VLV8	Switches the valve8 in Manual mode
	Manual - #1 DET1	Switches ON/OFF of Detector 1 in Manual mode.
	Manual - #2 DET2	Switches ON/OFF of Detector 2 in Manual mode.
	Manual-Heater	Switches ON/OFF of the heater.
	Manual-Pressure	Switches ON/OFF of EPC.
	Range Select	Change the range by setting the range number.
Set UP	Valve	Set/Change the valve ON/OFF time.
	Peak-Name	Set/Change the peak time.
	Peak-Gate Std/ON/OFF Time	Set/Change the gate ON/OFF and std time.
	Peak-Result Unit/Measuring Range	Set/Change the measuring range and/or its unit.
	Peak-Ref Stream Number/Ref Peak Number	Set/Change the Reference Stream number and/or Reference Peak number.
	Peak-Gate Cut Method/Integ Method	Set/Change the Gate Cut Method and/or the Integration Method.
	Peak-Std Conc/Std Area/Calib Factor	Set/Change the standard concentration, standard area and/or Calibration Coefficient.
Help	Contents	Displays the contents of Help of the Analyzer Operation window.
	Help Search	Displays Help on the basis of the keyword entered.

■ Chromatogram Window



In case of GC1000 MarkII



Menu Name	Command Name	Function
File	Save Chrom.	Saves the chromatogram displayed in the window to the hard disk or a floppy disk.
	Exit	Exits the Chromatogram window.
Scale	Zoom In	Enlarges chromatogram display.
	Zoom Out	Reduces chromatogram display.
	Part Enlargement	Specifies a range of chromatogram display and enlarges it.
	Full Disp	Displays the entire chromatogram.
	Auto Scale	Switches ON/OFF of auto-scale.
Graph	Pen Select	Sets up a chromatogram to display.
	Timing mark	Switches visible/invisible status of mark information.
	Temp/Pressure Display	Displays temperature data of a chromatogram.
Option	Grid	
	Snap Shot - Snap 1	Stores a currently displayed window in memory or displays window data stored in memory.
	Snap Shot - Snap 2	Stores a currently displayed window in memory or displays window data stored in memory.
	Snap Shot - Clear	Erases the contents of the window stored using the Snap 1 or Snap 2 command.
	Cursor Pos.	Switches visible/invisible status of the time and voltage value of the mouse cursor position on a graph.
	Peak Display On the chromatogram	Indicates mark information for peak display above the peak position.
	Peak Display Under the chromatogram	Indicates mark information for peak display below the peak position.
Help	Contents	Displays the contents of Help of the Chromatogram window.
	Help Search	Displays Help on the basis of the keyword entered.

■ Analyzer Configuration Windows

System	Help
Exit	help

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■ Alarm (Common to Alarm Status and Alarm History Windows)

View	Detail	Help
v Alarm Status Alarm History PCAS Alarm History GCM	View Making External DI alarm description	Help
Clear Status Clear History Exit	ALL(A) v GCM1(1) GCM2(2) GCM3(3) GCM4(4) GCM5(5) GCM6(6)	

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Menu Name	Command Name	Function
Display	Alarm Status	Displays the Alarm Status window.
	Alarm History	Displays the Alarm History window.
	PCAS Alarm History	Displays the PCAS's Alarm History window.
	Select GCM	Allows you to select THE GCM whose alarms are displayed. If ALL is selected, all alarms that have occurred in the GCM are displayed.
	Clear Status	Clears the alarm statuses of the analyzer. If ALL is selected in THE GCM selection, all alarm statuses of the GCM will be cleared. If any of CGM1 to GCM6 is selected, the alarm statuses of the GCM concerned will be cleared.
	Clear History	Clears the alarm history of analyzer. If ALL is selected in THE GCM selection, all alarm histories provided for the GCM will be cleared. If any of CGM1 to GCM6 is selected, the alarm histories of the GCM concerned will be cleared.
	Close	Closes the Alarm Window.
Detailed	Display	Displays the Alarm Detail description dialog. On this dialog, entering an alarm number and clicking the Execute button causes the Alarm Detail Window to appear.
	Making External DI alarm description	Displays the Making External DI alarm description dialog. On this dialog, you can create a message or detailed alarm description to be displayed if an external DI alarm occurs.
Help	Help	Displays the ASET Instruction Manual.

■ Analysis Results

File	Window	Display Item	Graph
Open History Ctrl + O Open History (Analyzer) Close History Ctrl + W Setting the Number of History Data Save As Ctrl + S Auto Update Exit Alt + F4	v Latest Analysis Results Concentration Analysis History Retention Time History Lab Analysis History Calibration Coefficient History File Analysis Results File Concentration Analysis History File Retention Time History File Lab Analysis Results File Calibration Coefficient History	Select Display Item Select SYS	GraphA GraphB GraphC
or			
File			
Open Ctrl + O Close Ctrl + W Save As Save Ctrl + S Exit Alt + F4			

User Level	Help
v User Level A User Level B User Level C User Level C+	Help

T10A.ai

In case of GC1000 MarkII

File	Window	Display Item	User Level	Help
Open History Ctrl + O	v Latest Analysis Results Concentration Analysis History Retention Time History Lab Analysis History Calibration Coefficient History File Analysis Results File Concentration Analysis History File Retention Time History File Lab Analysis Results File Calibration Coefficient History	Select Display Item	v User Level A User Level B User Level C User Level C+	Help
Close History Ctrl + W				
Save As Ctrl + S				
Auto Update				
Exit Alt + F4				
or				
File				
Open Ctrl + O				
Close Ctrl + W				
Save As				
Save Ctrl + S				
Exit Alt + F4				
		Graph		
		GraphA		
		GraphB		
		GraphC		

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* Menu commands that are displayed vary depending on the current window type. The menu commands shown above are a summary of all the commands.

Menu Name	Command Name	Function
File	Open	Opens a saved file in a file reference window.
	Close	Closes a file currently opened in a file reference window.
	Overwriting Save	Saves a file currently opened in a file reference window under the same file name.
	Save As	Saves a file currently opened in a file reference window under a different file name.
	Open History	Loads history data from the analyzer server in a history window.
	Close History	Closes the history data display in a history window.
	Save	Saves analysis results acquisition window data to a file.
	Auto Update	
	Exit	Exits the Analysis Results window.
Window	Latest Analysis Results	Displays the Latest Analysis Results window.
	Concentration Analysis History	Displays the Concentration Analysis History window.
	Retention Time History	Displays the Retention Time History window.
	Lab Analysis History	Displays the Laboratory Analysis History window.
	Calibration Coefficient History	Displays the Calibration Coefficient History window.
	File Analysis Results	Displays the File Analysis Results window.
	File Concentration Analysis History	Displays the File Concentration Analysis History window.
	File Retention Time History	Displays the File Retention Time History window.
	File Lab Analysis Results	Displays the File Laboratory Analysis Results window.
	File Calibration Coefficient History	Displays the File Calibration Coefficient History window.
Graph	Exit	Plots concentration analysis history, Retention time history, file concentration analysis history, or file Retention time history into a graph.
	Create A	
	Create B	
	Create C	
Help	Contents	Displays the contents of Help of the Analysis Result window.
	Help Search	Displays Help on the Analysis Result window on the basis of the keyword entered.

■ Graph

Fail	Graph	Help
Close	Make	Help
End	Print	

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Menu Name	Command Name	Function
Close	Close	Closes a graph window.
End	End	End a graph window.
Graph	Make	Plots concentration analysis history, Retention time history, file concentration analysis history, or file Retention time history into a graph.
Print	Print	Print the graph
Help	Help	Displays Help of the ASET.

■ ASIU Operation Window

System	DO Set	Help
Close	DO01 (1) DO02 (2) DO03 (3) DO04 (4) DO05 (5) DO06 (6) DO07 (7) DO08 (8) DO09 (9) DO10 (A) DO11 (B) DO12 (C) DO13 (D) DO14 (E) DO15 (F) DO16 (G)	Help

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Menu Name	Command Name	Function
System	Close	Close ASIU operation window.
DO Set	DO01 | DO16	ON/OFF DO01 (to DO16). Note: [DOxx] is displayed as [TAG#] when Tag# is set, as [TAG#/Signal] when Tag# and Signal are set.
Help	Help	Displays Help of the ASET.

Appendix B List of Messages

This Appendix contains a list of error messages displayed during Engineering Terminal operations and the countermeasures to be taken.

■ Ethernet LCD Emulator Window

	Message	Meaning	Countermeasures
Start	EtherLCD cannot execute more than 5 on a PC.	More than 5 EtherLCDs are operated on a PC at a same time.	4 is Maximum number of EtherLCD to be connected at a same time.
Connection	Other EtherLCD connects with the analyzer (xxx.xxx.xxx.xxx).	The appointed IP address of the analyzer is now connecting with (xxx.xxx.xxx.xxx) of the EtherLCD.	An analyzer cannot communicate with the multiple EtherLCD at a same time. Execute the command again after disconnecting the current connection.
	The communication has failed, because the Analyzer is local mode.	The communication cannot be started because the analyzer is under local mode.	Change from local mode to remote mode at the analyzer, then command again.
	Cannot open communication device.	The communication cannot be started due to a communication device problem.	Check the Ethernet card, setting of TCP/IP and Operation status of the analyzer.
Force connect	Password is incorrect. Force connection is not possible.	The entered password is invalid at the force connection.	Enter the correct password.
On-Line	Communication with Analyzer xxx has been cut.	The communication has failed between the PC and the analyzer.	Check the network between the PC and the analyzer, then try to connect again.
	Other PC starts the force connection. xxx.xxx.xxx.xxx.	The communication has failed due to the force connection by EtherLCD of IP address xxx.xxx.xxx.xxx.	After ending the communication with IP address xxx.xxx.xxx.xxx, make the connection again.
Analyzer select dialog	This IP address is incorrect.	Invalid IP address is entered.	Enter the correct IP address.
	This IP address overlaps with analyzer xxx.xxx.xxx. xxx.	The entered IP address is duplicated the analyzer xxx.xxx.xxx.xxx.	Set the different IP address.
	The analyzer ID is out of range.	Invalid Analyzer ID is entered.	Set the valid analyzer ID. The range is 1 to 240.

Overview Window

	Message	Meaning	Countermeasures
Running ASET	Engineering Terminal is already running.	An attempt was made to run the multiple ASET.	An ASET is run on a PC.
	It is necessary to close Analysis results. Please close and restart Analysis Results.	An attempt was made to run a ASET during running Analysis Results Window.	Re-run ASET after closing Analysis Results Window.
[Connect]	Other PC connect with the analyzer.	A PC can not run ASET because 4 sets of PC has already communicated with a PCAS.	Execute the connection command from ASET after closing a ASET which communicate with PCAS.
	Cannot open communication device.	The communication can not be started dues to the problem of a communication device.	Check the operation status of Ethernet card and TCP/IP setting.
[Forced Connect]	Password is incorrect. Forced connection is not possible.	The password entered at Forced connection is invalid.	Enter the valid password.
On communication	The communication has disconnected between the Analyzer and PCAS.	The communication has disconnected between the Analyzer and PCAS.	Check the cable between PCAS and the Analyzers, and execute the connction command from ASET again.
	Periodic communication has disconnected between the Analyzer and PCAS.	PCAS failed to receive the periodic communication from a analyzer connected.	Check the cable between PCAS and the Analyzers, and execute the connction command from ASET again.
	Other PC starts the forced communication. ASET (XXX.XXX.XXX.XXX)	A PC which IP address XX.XXX.XXX.XXX has cut the communication by Forced connection.	Execute "connect" command after closing ASET connected to PCAS.
	PCAS(XXX.XXX.XXX.XXX) requests to disconnect the communication.	The communication is disconnected by a forced connection from a PC which has IP address XXX.XXX.XXX.XXX.	Execute "connect" command from ASET after checking communication status of PCAS.
[Operation Mode]	Password is invalid. Please try again.	Password entered is invalid.	Enter the valid password.
[Display Setting]	A maximum of 16 ID's is allowed.¥nIf you add another ID, you must delete ID in advance.	An attempt is being made to register 17th analyzer on the overview window.	Max. analyzers entered is 16. It is needed to delete one analyzer if the other one is added.
server select dialog]	This IP Address is incorrect.	Invalid IP address is entered.	Enter the valid IP address.
	This IP address overlaps with Server XXX.	The IP address entered is same as one of a Server XXX.	The IP address which has already registered can not be set. Specify the other IP address.
	The server ID is out of range.	The server ID which can not be used has been entered. The available server ID is from 241 to 254.	Specify the server ID from 241 to 254.
[Transfer Parameters]	File operation is available in only Process/Lab - Stop.	An attempt was made to upload/download the setting parameter except Process/Lab -Stop mode.	The upload/download of the setting parameter is available on Process/Lab - Stop mode.
	The selected file is not a parameter file.	An attempt is being made to download the file which is not for the setting parameter.	Select the correct parameter file.
[Reset Analyzer]	Analyzer reset is available in only Process/Lab - Stop.	An attempt is being made to command "Reset Analyzer" except Process/Lab - Stop mode.	"Reset Analyzer" command is available on only Process/Lab - Stop mode.

■ Analyzer Operation

	Message	Meaning	Countermeasures
[Operation Mode]	Operation command was not accepted by the analyzer.	An unauthorized level user is attempting to change the operation mode or operate a valve.	Only level C users can change the operation mode or operate valves.
	Valves can only be operated in Manual mode.	An attempt is being made to operate a valve in a mode other than the Manual mode.	To operate a valve, choose the Manual mode. Note that only level C users can carry out this operation.
	Detectors can be operated only in Manual mode.	An attempt is being made to operate a detector in a mode other than the Manual mode.	To operate a detector, choose the Manual mode. Note that only level C users can carry out this operation.
	Operation pattern, valve, or detector cannot be operated because the user level is inappropriate.	An unauthorized level user is attempting to change the operation pattern or operate a valve.	Only level B or C users can change the operation pattern. Valves can only be operated by level C users.
[Set Up]	The entered data is out of range.	An invalid value has been entered on Valve/Peak setting dialog box.	Enter the correct value.
	The entered data is the same as the current data.	"Send" button has been clicked when the data is not changed on the Valve/Peak setting dialog box.	Click the "Send" button after changing the data.
	Sending data to analyzer failed.	The data transmission has failed on the Valve/Peak setting dialog box.	Try again after checking the operation status of PCAS and Analyzers, and connection status of the cables.
	Please change the LCD mode on the GC1000 to remote mode.	The Valve/Peak setting is not available when the analyzer is under "local mode".	Try again after changing to "remote mode" at the analyzer.
	A user has changed a parameter in the GC1000. Please restart Analyzer Operation Window by the [Display][Analyzer ID] command of Overview window.	Due to the parameter change by LCD panel at the analyzer, there is a discrepancy of the setting parameter information on ASET. The Valve/Peak setting from ASET is not available.	Re-load the initial database from the analyzer, then setting is available.

■ Chromatogram

	Message	Meaning	Countermeasures
[Time/Pressure Display]	Please check Temp. or Press. box.	Temperature/Pressure is not selected on the Temp/Pressure dialog box.	Select at least Temperature or Pressure.
Pen select	Select two graphs.	2 graphs are not selected at Differential chromatogram display.	Select 2 graphs.
	Illegal file type	An attempt was made to open a file other than a chromatogram file.	Select the correct file.
	Already opened	The selected differential chromatogram has already been opened by another pen.	Select another differential chromatogram or erase the opened differential chromatogram.

■ Alarm

	Message	Meaning	Countermeasures
History erasing	Alarm history cannot be reset by a level-A user.	An unauthorized level user is attempting to reset the alarm history.	Only level B or C users can reset the alarm history.

■ Analysis Results

	Message	Meaning	Countermeasures
On start-up	Analysis Results has already been opened.	An attempt is being made to start multiple Analysis Result Display.	The multiple display is not available.
Memory	Memory allocation error Insufficient memory space	Memory space is insufficient.	Check if adequate memory space required to carry out the operation has been secured.
[File]	Illegal file name This file is not XXX file.	An attempt was made to open a file not having data corresponding to the current window.	Only open files relevant to the current window.
	Reading error Data is illegal. An error occurred in reading the file.	The contents of the file attempting to be opened were incorrect; the file could not be opened.	Only open files with correct contents.
	An error occurred while writing to a file. Data was not saved to the file.	An error occurred while saving data. Data could not be saved.	Eliminate the cause of the error and try to save the file again.
	Data has been modified. Do you want to save?	Window data has been modified.	Click "Yes" if the data needs to be saved and then close the window.
	File cannot be saved. No data available.	The file can not be saved because the data is not indicated on the display.	Save the file after getting the data on the display.
[Graph]	No peak is selected. Please select at least one peak.	No peak is selected.	Select at least one peak.
	Max. value should be larger than min. value.	The max. value at Y-axis of the graph is less than min. value.	Set the larger value than the min. value at Y-axis of the graph.
On communication	Communication error while receiving data from Analyzer.	Failure of the data retrieve such as analyzer setting and analysis history.	Re-start the Analysis Result Window after checking the operation status of PCAS and Analyzers, and connection status of the cables.
Data editing	Wrong input value Only numeric value can be entered here.	An attempt was made to enter data other than numeric values.	Re-enter numeric data.

Message		Meaning	Countermeasures
Graph plotting	Graph cannot be plotted. Because of no data	A graph cannot be plotted because the currently displayed window contains no data.	Perform graph plotting only when data is available in the window.
	Graph cannot be plotted. Illegal data	No graph was plotted because the graph range to plot contained inappropriate data. This message also appears if there is no data in the graph range.	Check if data in the set graph range is appropriate. Also check if there is data in the graph range.
	Selection error Data required is not selected.	Some of the data required to plot the graph have not been selected.	Check that the complete data required to plot the graph has been provided.
	Selection error The maximum number of peaks that can be selected at one time is 6.	More than 6 peaks have been selected.	The maximum number of peaks that can be displayed on a graph at one time is 6. Select six or less peaks.
	Selection error Start time was set to a time later than the end time.	The start time was set to a time later than the end time when setting up the time axis (in Manual mode).	Set the start time to a time earlier than the end time.
	Graph cannot be created / plotted. For logarithmic graphs, axes can not be set at zero or negative values.	Zero or negative values were set as the minimum or maximum values when setting up logarithmic axes (in Manual mode).	Logarithmic axes cannot display zero or negative values. When setting the maximum and minimum values for the logarithmic axes, set values greater than zero.

■ ASIU

Message		Meaning	Countermeasures
[DO Operation]	ASIU operation is not available in User level A.	An attempt is being made to operate ON/OFF of DOs by an inappropriate user level.	User level B or C can operate the ON/OFF of DOs.

■ File extensions

In each file reference window, only files having the following extensions can be opened:

File analysis results:	.ana (latest analysis results)
	.nar (latest analysis results)
File concentration analysis history:	.cnc (concentration analysis history)
	.nar (latest analysis results)
	.dat (ASIU average value)
File Retention time history:	.rtm (Retention time history)
	.nar (latest analysis results)
File laboratory analysis results:	.lab (laboratory analysis results)
	.dat/old (laboratory analysis results)
File calibration coefficient history:	.cef (calibration coefficient history)
	.dat/old (calibration coefficient history)

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Delete for Windows XP and CaptureIT! (Pages 1, 9, 10, 1-2, 5-34)

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Addition of "Installation Procedure of ASET-S" (Pages 2 to 7)
Addition of Peak Relating Data History (Pages 4-45 to 4-47, 4-51 to 4-54)
Addition of Chinese (Pages 1, A-1, A-2)
Correction (Page i, 1-3, 3-1, 3-17, 4-11, A-3, A-8)

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Addition of specification, etc. (Page 1, 2, 6, 3-8, 3-14 to 3-17, 4-4, 4-7, 4-13, 4-14, 4-17, 4-24, 4-25, 4-37, 4-38, 4-40, 4-45 to 4-52, 4-55, 4-56, 5-25, 5-34, 7-5, A-4)

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Addition of PC Configuration for Power Management. (Pages 5 and 6)

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Addition of Chapter 4 and revices for GC8000.
Reviced for Windows 7.

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Correct the explanation in Chapter 7 etc.

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Addition of Chapter 7 "Installing ASET for ARCNET" (P. i, P.1)
Amendment (Pages iii, 2, 3, 4, 6, 2-1, 3-1, 3-4, 3-7, 4-5, 4-10, 4-11, 4-12, 4-13, 4-24, 4-32, 4-37, 4-39, 4-41, 4-42, B-5)
Changing of figure (Pages 1, 4-2, 4-5, 4-6, 4-23, 4-24, 4-31, 5-2)
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